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Sediment Data

Alberta

Données sur les sédiments

1987

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WATER RESOURCES BRANCH
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OTTAWA, CANADA, 1989

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PREFACE

This publication was prepared by personnel of the Sediment Survey Section, Water Survey of Canada Division, under the direction of the Director, Water Resources Branch, Department of the Environment, Ottawa.

The basic data were collected and compiled under the supervision of the Chief, N.W.T. Programs, Yellowknife, Northwest Territories and the Regional Chief of the Water Resources Branch at Vancouver, British Columbia.

The co-operation received from provincial agencies and from other organizations is gratefully acknowledged.

PRÉFACE

Le groupe d'étude des sédiments de la Division des relevés hydrologiques du Canada, sous l'autorité du directeur des Ressources en eau du ministère de l'Environnement, à Ottawa, a préparé la présente publication.

Le Chef des programmes des T.N.-O., à Yellowknife (Territoires du Nord-Ouest) et le chef régional de la Direction des ressources en eau, à Vancouver (Colombie-Britannique), ont supervisé la collecte et la compilation des données de base.

Nous remercions vivement les organismes provinciaux, ou autres, pour leur collaboration.

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INTRODUCTION

The Water Resources Branch of the Department of the Environment herein presents for the 1987 calendar year the annual suspended sediment data and a historical data summary for the sediment survey investigations conducted in Alberta by the Water Survey of Canada.

Data on the character and quantity of fluvial sediments provided by sediment survey investigations are intended for use in studies of water quality, environmental impacts, river processes and behaviour, and engineering design.

General introductory information on the sediment survey is included in this publication. Similar information for the associated hydrometric survey is given in the regular publications containing surface water data.

Details on individual stations and related records, as well as recent data that have not yet been published, may be obtained upon application to:

Water Resources Branch,
Department of the Environment,
Bag 2909,
Postal Station 'M',
(Room 854,
220-4th Avenue S.E.),
Calgary, Alberta.
T2P 2M7
(403 292-5315)

or to the Water Resources Branch, Department of the Environment, Ottawa, Ontario, K1A 0H3 (819 997-2098).

INTRODUCTION

Dans la présente publication de la Direction des ressources en eau du ministère de l'Environnement, on trouvera les données annuelles sur les sédiments en suspension pour 1987 et le commaire des données chronologiques sur les sédiments, à la suite des études effectuées dans les cours d'eau de l'Alberta par la Division des relevés hydrologiques du Canada.

Les données recueillies sur la nature et l'importance de la charge solide dans les cours d'eau doivent servir aux études portant sur la qualité des eaux, les incidences environnementales, les processus fluviaux, le comportement des cours d'eau et la conception de projets.

La presente publication contient des renseignements généraux préliminaires sur les études des sédiments. Des renseignements semblables sur les études hydrométriques connexes sont contenus dans les publications régulières présentant des données sur les eaux de surface.

On peut obtenir des renseignements supplémentaires sur les stations et les relevés, ainsi que des données récentes non encore publiées, en s'adressant au:

Direction des ressources en eau
Ministère de l'Environnement
Sac postal 2909
Succursale postale 'M'
(Pièce 854,
220, Quatrième avenue S.-E.)
Calgary (Alberta)
T2P 2M7
(403 292-5315)

ou au Direction des ressources en eau, ministère de l'Environnement, Ottawa (Ontario), K1A 0H3 (819 997-2098).

SCOPE OF PUBLICATION

Descriptive information about sediment stations is given. This refers to the Location, Latitude and Longitude, Drainage Area and whether the flow is Natural Flow or Regulated Flow (the year that regulation began is given, if known), Type of Gauge and the Total Suspended Sediment Load in Tonnes for the Period of Record is also included. International Gauging Stations are identified and the names of co-operating agencies who supply data are given; unusual conditions at the sediment station that could affect the data results are explained under "Remarks".

This publication contains data on streamflow, instantaneous suspended sediment concentration; daily mean suspended sediment concentration; daily suspended sediment loads; dissolved solids concentration; load summary; particle-size distribution of suspended sediment in percent sand, silt and clay; bed load and bed material; water temperature when samples were collected; type of sampler and the single sampling vertical location.

A historical sediment data summary includes such information as Sampled Concentration Maximum and Minimum; Suspended Sediment Load Maximum Daily and the Total for Period. The Period of Record and the Type of Operation for each year of data are also given. A Summary for the Months of record gives the Period of Record Mean, the Mean for Period of Record and the Standard Error of Mean as a percent.

HISTORY AND OBJECTIVES OF SEDIMENT SURVEYS IN CANADA

In Canada, investigations of sediment transported by streams were first undertaken by individual organizations or agencies in 1948, to meet the needs of federal and provincial agencies for assessment of particular projects. Although the investigations were extended to meet expanding needs after 1948, it was not until 1961 that a systematic survey was undertaken by the Water Resources Branch.

The sediment survey program has the following objectives:

(1) Collection and provision of data related to sediment transport in Canadian rivers for applications in water resource engineering, water quality and environmental studies.

(2) Provision of information and advice related to sediment transport.

(3) Assessment, improvement and standardization of equipment and techniques used in Canada's sediment survey program.

PUBLICATION OF SEDIMENT DATA

Sediment data have been published in a variety of formats since the beginning of the Sediment Survey Program.

PORTÉE DE LA PUBLICATION

Des données descriptives sont présentées sur les stations d'étude des sédiments. Elles concernent leur emplacement, leurs latitude et longitude, leur bassin versant, la nature de débit (naturel ou régularisé, avec indication, le cas échéant, de l'année où la régularisation a commencé, si elle est connue), le type d'instrument de mesure employé et le débit total des sédiments en suspension (en tonnes) pour la période de relevé. Les stations internationales de jaugeage sont indiquées, ainsi que le nom des organismes qui fournissent les données. Des explications concernant des conditions exceptionnelles qui ont pu influer sur les résultats sont présentées dans la partie «Remarques».

Cette publication renferme des données sur le débit des cours d'eau, les concentrations instantanées de sédiments en suspension, les concentrations journalières moyennes de sédiments en suspension, les débits journaliers de sédiments en suspension, les concentrations de matières dissoutes, les débits solides totaux (résumés), la granulométrie des sédiments en suspension exprimée en pourcentage de sable, de limon et d'argile, le charriage et les matériaux du lit, la température de l'eau au moment de l'échantillonnage, le type d'échantillonneur employé et l'emplacement des verticales de prélèvement d'échantillons uniques.

Un résumé des données historiques sur les sédiments est inclus. On y trouve divers renseignements comme les concentrations maximale et minimale mesurées, le débit journalier maximal des sédiments en suspension et le total pour la période. La période de relevé et le type d'exploitation des stations sont indiqués pour chaque année. Dans un résumé pour les mois de relevé, on donne la moyenne pour chaque période et pour l'ensemble des périodes de relevé ainsi que l'erreur-type de la moyenne, en pourcentage.

HISTORIQUE ET OBJECTIFS DES ÉTUDES DES SÉDIMENTS AU CANADA

Au Canada, les études dans ce domaine ont débuté en 1948 en réponse aux besoins exprimés par certains organismes fédéraux et provinciaux pour l'évaluation de projets donnés et étaient le fait d'organismes privés. Bien que les études se soient poursuivies après 1948 pour satisfaire aux besoins accrus, ce n'est qu'en 1961 que la Direction des ressources en eau les a entreprises de façon systématique.

Les buts de ces études sont de:

(1) réunir et produire des données sur les transports solides dans les cours d'eau canadiens, données dont on peut avoir besoin pour des études concernant l'environnement, la qualité des eaux et la conception de projets portant sur les ressources en eau.

(2) produire des informations concernant les transports solides.

(3) évaluer, améliorer et uniformiser le matériel et les techniques employés dans le programme d'étude des sédiments au Canada.

PUBLICATION DES DONNÉES SUR LES SÉDIMENTS

Depuis le début du programme d'étude des sédiments, la présentation des données a varié.

During the years 1948 to 1960, some sediment data were collected for several Prairie rivers to meet the needs of particular projects. The first Water Resources Paper series containing sediment data incorporated a selection of these data and also data for part of the year ending September 30, 1961, at stations established for the continuing program. The second issue was a biennial publication covering only the continuing program for the 1962 and 1963 water years. All subsequent editions titled *Sediment Data Canadian Rivers* have been published annually. The sediment data since 1978 have been presented entirely in the International System of Units (SI).

Commencing with 1984, the *Sediment Data* were published in a new format wherein Canada was divided into eight regions. The provinces each represent a separate region except for New Brunswick, Newfoundland, Nova Scotia and Prince Edward Island, which together form the Atlantic Provinces region, and the Yukon and Northwest Territories which make up another. The publications are identified by the province or territories covered and the year in which the data were collected. These data are published annually on a calendar-year basis and the stations are listed alphabetically.

A new edition, *Miscellaneous Sediment Data 1966 to 1983*, was published. It contains a tabulation of locations in Canada where miscellaneous data were collected but not previously published by the Water Survey of Canada. The following data are included in this one time publication: date and time of sample collection; instantaneous discharge or daily mean discharge; sampling vertical; instantaneous concentration; dissolved solids for some samples; type of sampler used; particle size distribution of suspended sediment in percent sand, silt and clay for some depth integrated samples and/or measurements, and some point integrated measurements; particle size distribution of bed load; particle size distribution of bed material; and the water temperature at time of sampling for some samples is also given where available.

The first edition of a *Sediment Data Reference Index* was published for data to 1972. It contains a tabulation of locations in Canada where sediment data were collected by the Water Survey of Canada. The index has been subdivided alphabetically by province or territory, with sediment survey stations also listed alphabetically. Commencing with the 1978 publication, data are presented in the International System of Units (SI) and will continue to be published biennially. The latest edition supersedes all previous editions because it contains any corrections or additions since the last publication.

The first edition of a new publication series titled *Historical Sediment Data Summary for Canadian Rivers* was produced for data to 1974. This publication contains a summary of historical monthly and annual mean suspended sediment load, and annual extremes of daily suspended sediment concentration and loads and total annual suspended load. Commencing with the 1978 publication, data are presented entirely in the International System of Units (SI). This publication has been discontinued, as much of the information is now included in the new annual *Sediment Data* publication.

De 1948 à 1960, on a recueilli des données pour plusieurs cours d'eau des Prairies en prévision de la réalisation de certains projets. La première publication contenant des données sur les sédiments a paru dans la série intitulée *Water Resources Paper*; elle présentait un choix de ces données ainsi que des données recueillies en 1961 avant le 30 septembre à des stations établies pour la réalisation du programme permanent. La deuxième publication a porté sur les données recueillies dans le cadre du programme au cours des années hydrologiques 1962 et 1963. Par la suite, les données ont été publiées annuellement sous le titre *Données sur les sédiments - rivières canadiennes*. Depuis 1978, les données sont exprimées en unités du Système international (SI).

En 1984, la présentation des *Données sur les sédiments* a été modifiée. Le Canada a été divisé en huit régions, une région pour chaque province, sauf le Nouveau-Brunswick, Terre-Neuve, la Nouvelle-Écosse et l'Île-du-Prince-Édouard qui, ensemble, forment la région des provinces de l'Atlantique, et les Territoires du Yukon et du Nord-Ouest, qui forment une autre région. Les publications sont nommées selon la région couverte et l'année des données (année civile). Ces publications sont annuelles. Les stations y sont présentées par ordre alphabétique.

Une édition récente intitulée *Données diverses sur les sédiments, 1966 à 1983* vient de paraître. On y présente sous forme de tableau les emplacements où des données diverses non encore publiées ont été recueillies au Canada par la Division des relevés hydrologiques. Cette première édition comprend des données telles que : la date et la durée de l'échantillonnage; le débit instantané ou débit journalier moyen; la verticale d'échantillonnage; les concentrations instantanées; les concentrations de matières solides en solution pour certains échantillons; le type d'échantillonneur employé; la granulométrie des sédiments en suspension en pourcentage de sable, de limon et d'argile, dans le cas de mesures avec intégration selon la profondeur ou d'échantillons intégrés sur toute la profondeur, et dans le cas de mesures par la méthode ponctuelle; la granulométrie du charriage; la granulométrie des matériaux du lit; la température de l'eau lors du prélèvement d'échantillons, lorsque celle-ci est connue.

Un *Index de référence des données sur les sédiments* est publié. La première édition portait sur les données disponibles jusqu'en 1972. Les emplacements où des données sur les sédiments ont été recueillies au Canada par la Division des relevés hydrologiques y sont présentés sous forme de tableau. L'*Index* est subdivisé selon l'ordre alphabétique par province ou territoire, et les stations de mesure des sédiments sont classées par ordre alphabétique. À partir de 1978, les données sont exprimées en unités du Système international (SI). L'*Index* est publié tous les deux ans; l'édition la plus récente annule toutes les éditions antérieures, car elle renferme toutes les corrections et mises à jour effectuées depuis la dernière parution.

Une autre série de publications a porté le titre *Sommaire chronologique des données sur les sédiments de rivières canadiennes*. La première édition renfermait les données disponibles jusqu'en 1974. Cette série présentait un résumé donnant les moyennes mensuelles et annuelles historiques du débit des sédiments en suspension, les valeurs annuelles extrêmes de la concentration journalière et du débit journalier des sédiments en suspension et le débit annuel total des sédiments en suspension. À partir de 1978, les données ont été présentées en unités du Système international (SI). Cette série a été abandonnée, car une bonne partie de l'information est maintenant contenue dans la nouvelle publication annuelle intitulée *Données sur les sédiments*.

COLLECTION AND PROCESSING OF BASIC DATA

1. *Equipment and Instrumentation*

The sediment survey program of the Water Resources Branch is conducted in cross sections on rivers selected specifically for the sediment survey or for the hydrometric survey. Certain cross sections are located at traffic bridges, while others are equipped with cableways, or automatic pump samplers.

The following sediment samplers have been used in the sediment survey program:

(a) Depth-integrating suspended sediment wading-type hand sampler, USDH-48, used on small streams or during winter periods.
(b) Depth-integrating suspended sediment sampler, USDH-59, used as a handline suspension for small and medium size streams.
(c) Depth-integrating suspended sediment samplers, USD-49, and USD-74, used on a reel suspension for medium and large streams whose depths are less than five metres.

(d) Point-integrating suspended sediment samplers, USP-61, USP-61-A1, USP-63, and USP-72, used for point-integrating sampling, or depth-integrating sampling if the depth is over five metres, or in a cross section with velocities up to two metres per second.
(e) Automatic pump sampler is an automatic pumping system permitting unattended collecting and bottling of individual water samples pumped from a fixed point in a stream. This sampler is normally installed at isolated locations where otherwise no data would be available during ice break-up or peak periods.

(f) Bed material sampler, USBM-54, used on large or deep streams or on those streams with hard-packed streambeds.

(g) Bed material sampler, USBMH-60, used on some large or deep streams or on those streams with soft-packed streambeds.

(h) Bed material sampler, USBMH-53, used on some small or shallow streams.

(i) Lane bed material sampler, a drag-type sampler used on small streams or those with soft streambeds.

2. *Hydrometric Surveys*

The hydrometric survey includes the standard procedures for observations of water levels, streamflow measurements, water surface slope determinations if required, and observations of water temperature. The streamflow measurements are made in conjunction with the sediment load measurements and conform to the accepted standards of the regular hydrometric survey.

3. *Sediment Sampling Program*

The following is a summary of the elements associated with the Sediment Sampling Program:

(a) Periodic measurement of suspended sediment load by the

COLLECTE ET TRAITEMENT DES DONNÉES DE BASE

1. *Matériel*

L'étude des sédiments réalisée par la Direction des ressources en eau porte sur des sections transversales de cours d'eau choisis spécialement à cette fin ou pour les relevés hydrométriques. Certaines sections sont situées sous un pont, d'autres sont accessibles par téléphérique, ou sont étudiées à l'aide d'un échantillonneur sous pression.

On a utilisé les échantillonneurs suivants:

(a) L'échantillonneur intégrateur selon la profondeur, type simple, USDH-48, employé dans les cours d'eau peu profonds ou en hiver;
(b) L'échantillonneur intégrateur selon la profondeur USDH-59, utilisé comme une ligne dans les cours d'eau petits et moyens;
(c) Les échantillonneurs intégrateurs selon la profondeur USD-49 et USD-74 fixés au bout d'une corde s'enroulant autour d'un moulinet et employés dans les cours d'eau gros ou moyens dont la profondeur est inférieure à cinq mètres;
(d) Les échantillonneurs intégrateurs USP-61, USP-61-A1, USP-63 et USP-72, employés ponctuellement ou sur toute la verticale, et utilisés lorsque la profondeur est supérieure à cinq mètres ou dans les sections transversales qui connaissent un débit qui atteint 2 m/s.
(e) Un échantillonneur automatique permettant le prélèvement en bouteilles, sans surveillance, d'échantillons uniques d'eau obtenus à l'aide d'une pompe en un point précis d'un cours d'eau; il est ordinairement installé dans un endroit isolé où aucune donnée ne pourrait être obtenue autrement au cours de la débâcle ou des périodes de débit de pointe;
(f) L'échantillonneur USBM-54 employé pour le prélèvement d'échantillons des matériaux du lit dans les cours d'eau importants ou profonds ou dans les cours d'eau dont le fond est dur;
(g) L'échantillonneur USBMH-60 employé pour le prélèvement d'échantillons des matériaux du lit dans certains cours d'eau importants ou profonds, ou dans les cours d'eau dont le fond est meuble;
(h) L'échantillonneur USBMH-53 employé pour le prélèvement d'échantillons des matériaux du lit dans certains cours d'eau petits ou peu profonds;
(i) La drague employée pour le prélèvement d'échantillons des matériaux du lit dans de petits cours d'eau ou dans des cours d'eau dont le fond est meuble.

2. *Relevés hydrométriques*

Le relevé hydrométrique comprend, entre autres, l'observation de la hauteur des eaux, la mesure du débit de l'eau, la détermination de la pente de la ligne d'eau, si nécessaire, ainsi que l'observation de la température de l'eau. Les mesures du débit de l'eau et du débit des sédiments se font conjointement, suivant les méthodes acceptées.

3. *Échantillonnage des sédiments des cours d'eau*

L'échantillonnage comporte, en gros, les éléments suivants:

(a) La mesure périodique du débit des sédiments en suspension par la méthode d'intégration sur toute la profondeur

depth-integrating method for determining the average suspended sediment concentration in the cross section.

(b) Single suspended sediment samples at a selected vertical for determining the sediment concentration for the days when suspended sediment load measurements are not taken.

(c) Limited measurement of suspended sediment load by the point-integrating method for checking depth-integrated measurements and for determining particle-size distribution in the cross section.

(d) Sampling of bed material for determining particle-size distribution.

(e) Periodic measurement of bed load.

The following is a brief explanation of the elements listed above:

(a) *Suspended Sediment Load by Depth-Integrating Method*: Measurements are made by the depth-integrating method to determine the suspended sediment load in the entire cross section of a stream, the average suspended sediment concentration in the cross section, and the size distribution of the sediment particles. It is known that the concentration of suspended sediment tends to increase from the water surface to the streambed and could vary from streambank to streambank.

When making suspended sediment equal-discharge-increment (EDI) measurements, the stream cross section is divided into at least five equal-flow panels and a representative suspended sediment sample is collected from each portion. For each panel of the cross section, the suspended sediment load (r) may then be computed by multiplying the flow (q) by the suspended sediment concentration (c):

$$r = q\ c$$

The suspended sediment load (R) for the cross section may be computed by adding the sediment loads for the five equal-flow panels:

$$R = r\ n = q_1c_1 + q_2c_2 + \ldots + q_nc_n$$

The depth-integrating method of sampling is used to measure the suspended sediment concentration. This method is based on the premise that the sampler fills at a rate proportional to the velocity of the approaching flow, and that by traversing the depth of a stream at a uniform speed, the sampler will receive a portion of water sediment mixture at every point in the vertical.

(b) *Single Suspended Sediment Samples at a Selected Vertical*: Single suspended sediment samples, consisting of two bottles each, are collected routinely using the depth or point-integrating samplers at a permanently fixed vertical in a cross section. During periods of very heavy sediment concentration, two or three single sediment samples may be taken per day, while during periods of low concentration, one single sediment sample may only be taken every few days. During extremely low flow periods, the sampling may be limited to one single sample in several weeks or months.

(c) *Suspended Sediment Load by Point-Integrating Method*: A limited number of suspended sediment load measurements are made by the point-integrating method. These measurements are included in the program (a) to check by comparison the "measured" sediment loads obtained by the depth-integrating method with the suspended sediment loads by the point-integrating method and (b) to obtain samples from which to determine particle-size distribution

pour la détermination de la concentration moyenne dans une section transversale;

(b) Le prélèvement d'échantillons uniques des sédiments en suspension selon une verticale choisie, afin de determiner la concentration des sédiments les journées où le débit des sédiments en suspension n'est pas mesuré;

(c) Un nombre restreint de mesures du débit des sédiments en suspension avec intégration en un point précis d'un cours d'eau, afin de vérifier les résultats des mesures avec intégration selon la profondeur et afin de déterminer la granulométrie des particules de sédiments dans une section transversale d'un cours d'eau;

(d) L'échantillonnage des matériaux du lit afin d'en déterminer la granulométrie;

(e) La mesure périodique du charriage.

Voici une brève description des éléments susmentionnés.

(a) *Mesure du débit des sédiments en suspension par intégration selon la profondeur*: La méthode permet de déterminer le débit des sédiments en suspension traversant toute une section transversale d'un cours d'eau, la concentration moyenne des sédiments en suspension dans la section transversale et la granulométrie des sédiments en suspension. C'est un fait connu que la concentration des sédiments en suspension augmente généralement avec la profondeur et qu'elle peut varier d'une rive à l'autre d'un cours d'eau.

Avec la méthode d'incréments de débits égaux (IDE), la mesure du débit des sédiments en suspension se fait en divisant une section transversale d'un cours d'eau en au moins cinq tranches où le débit est égal et en prélevant un échantillon représentatif dans chacune d'elles. Le débit des sédiments en suspension (r) pour chaque tranche se calcule en multipliant le débit (q) par la concentration des sédiments en suspension (c):

$$r = q\ c$$

Le débit des sédiments en suspension (R) pour la section transversale est la somme des débits des sédiments des cinq tranches:

$$R = r\ n = q_1c_1 + q_2c_2 + \ldots + q_nc_n$$

La méthode par intégration sur toute la profondeur est employée pour mesurer la concentration des sédiments en suspension. Elle suppose que l'échantillonneur se remplit à un rythme proportionnel au débit de l'eau et qu'en étant déplacé à une vitesse uniforme sur toute la verticale, il reçoit une partie du mélange eau-sédiments à tous les points de celle-ci.

(b) *Prélèvement d'échantillons uniques de sédiments en suspension sur une verticale choisie*: De tels échantillons, constitués chacun de deux bouteilles, sont prélevés régulièrement à l'aide d'appareils intégrateurs, selon la profondeur ou ponctuels, sur une verticale permanente d'une section transversale. Lorsque la concentration des sédiments est très forte, deux ou trois échantillonnages peuvent être effectués chaque jour, alors qu'un seul échantillon peut être prélevé à quelques jours d'intervalle lorsqu'elle est faible. Au cours des périodes où le débit est extrêmement faible, l'échantillonnage peut être limité à un échantillon toutes les quelques semaine ou tous les quelques mois.

(c) *Mesure du débit des sédiments en suspension par la méthode ponctuelle*: Un nombre limité de mesures du débit des sédiments en suspension sont faites avec cette méthode. On y a recours a) pour vérifier les valeurs du débit mesurées au moyen de la méthode précédente et b) pour obtenir des échantillons en vue de déterminer la granulométrie des sédiments en divers points de la

at different points in the cross section. The point-integrating sediment loads are computed by graphical methods.

The relationship between the suspended sediment concentration of the single vertical samples and the average concentration in the cross section determined from the suspended sediment load measurements is established for some stations. Using this relationship, the sediment concentrations of the single vertical samples are adjusted to reflect the average suspended sediment concentration in the cross section. These average sediment concentrations in the cross sections are plotted, and a smooth curve is drawn through the points to obtain a concentration graph. This graph represents the average suspended sediment concentration for the period of record. The daily mean concentrations are determined by automated procedures using a digitizer interfaced with a Digital minicomputer.

The daily suspended sediment loads are computed on the basis of stream discharges and the collected suspended sediment concentrations. The daily suspended sediment loads are expressed in tonnes per day and are obtained by multiplying the daily mean sediment concentration (mg/L), by the daily mean discharge (m^3/s), and the conversion factor, 0.0864.

(d) *Bed Material Sampling*: In a cross section, bed material samples are usually taken in the same sampling verticals as the suspended sediment samples. Often, additional bed material samples are collected at the water edge, the extreme water level or at other points in the cross section. The total number of bed material samples taken in a cross section usually varies between five and nine.

(e) *Bed Load Measurement*: There are several methods available for measurement of bed load (volumetric method, measurement by samplers, method of tracers, method of constricted cross section, study of sound waves, etc.). The measurement methods should be selected in accordance with river regime.

4. *Total Sediment Load*

Sediment transport may be divided into two categories: sediment maintained in suspension in the stream (suspended load), and sediment being carried along the streambed (bed load). To measure the total sediment load, each of these must be measured separately and then totalled. The total sediment load was not computed for this publication.

5. *Sediment Survey Laboratories*

The Water Resources Branch maintain sediment survey laboratories in New Westminster, British Columbia; Regina, Saskatchewan; Guelph, Ontario; and Moncton, New Brunswick. The laboratories are equipped to perform the following analyses:

(a) determination of sediment concentration by (1) filtration method, (2) evaporation method and (3) determination of total dissolved solids by evaporation method.
(b) particle-size distribution analysis by (1) bottom withdrawal tube method, (2) sieving and (3) hydrometer method.

Determination of the sediment concentration by the evaporation method is carried out by evaporating the water from the settled sediment sample, with the results being corrected for dissolved solids. The quantity of dissolved solids is determined by evaporating a portion of the decanted water of a sample. In the filtration method, the suspended sediment concentration of water samples is determined by utilizing Gooch crucibles with a Reeve Angel 934AH filter and a Millipore AP20 prefilter and a vacuum system.

section transversale. Cette méthode fait appel à des graphiques pour le calcul du débit des sédiments.

Le rapport entre la concentration des sédiments en suspension dans les échantillons prélevés sur une seule verticale et la concentration moyenne dans la section transversale, telle que déterminée à partir des mesures du débit des sédiments en suspension, est établi pour quelques stations. Il permet de corriger les concentrations mesurées à une seule verticale de manière à donner la concentration moyenne dans la section transversale. Les concentrations moyennes ainsi déterminées sont reportées sur un graphique, et une courbe lisse passant par les points marqués est tracée. Le graphique obtenu représente la concentration moyenne des sédiments en suspension pour la période de relevé. Les concentrations moyennes quotidiennes sont déterminées automatiquement à l'aide d'un convertisseur analogique-numérique relié à un mini-ordinateur numérique.

Les valeurs journalières du débit des sédiments en suspension sont calculées à partir du débit du cours d'eau et des concentrations des sédiments en suspension recueillis. Elles sont exprimées en tonnes par jour. On les détermine en multipliant la concentration moyenne journalière des sédiments (mg/L) par le débit moyen journalier (m^3/s) et par un facteur de conversion approprié, 0.0864.

(d) *Échantillonnage des matériaux du lit*: Dans une section transversale, les échantillons des matériaux du lit sont ordinairement prélevés aux mêmes verticales que ceux des sédiments en suspension. Souvent, des échantillons supplémentaires sont pris près des rives, là où le niveau d'eau est extrême et à d'autres points de la section transversale. Leur nombre total pour une section donnée varie ordinairement entre cinq et neuf.

(e) *Mesure du charriage*: La mesure peut se faire par plusieurs méthodes (méthode volumétrique, mesure à l'aide d'échantillonneurs, méthode des traceurs, méthode de la section transversale rétrécie, étude des ondes sonores, etc.). Le choix se fondera sur la nature du régime du cours d'eau.

4. *Débit solide total*

Il y a deux catégories de sédiments: les sédiments maintenus en suspension au sein de l'eau (sédiments en suspension), et les sédiments charriés sur le lit d'un cours d'eau (charriage de fond). Les deux types de sédiments doivent être mesurés séparément et leurs valeurs additionnées si on veut mesurer le débit total des sédiments. Toutefois, on ne l'a pas calculé aux fins de la présente publication.

5. *Laboratoires d'analyse*

La Direction des ressources en eau possède des laboratoires d'analyse des sédiments à New Westminster (Colombie-Britannique), Regina (Saskatchewan), Guelph (Ontario) et Moncton (Nouveau-Brunswick). Les laboratoires disposent des appareils nécessaires pour effectuer les analyses suivantes:

(a) la détermination de la concentration des sédiments par (1) filtration, (2) évaporation, et (3) détermination des matières dissoutes totales par évaporation.
(b) l'analyse granulométrique (1) par extraction des sédiments déposés dans un tube, (2) par l'emploi de tamis et (3) par l'utilisation d'un hydromètre.

La méthode par évaporation consiste à faire évaporer l'eau d'un échantillon de sédiments décanté et à corriger les résultats pour tenir compte des matières dissoutes. La quantité de celles-ci est déterminée en faisant évaporer une partie de l'eau de l'échantillon décanté. Dans la méthode par filtration, on utilise sous vide des creusets de Gooch munis d'un filtre Reeve Angel 934AH et d'un préfiltre Millipore AP20.

Particle-size analysis was carried out for some suspended sediment samples having gross weights in the range of 0.15 to 5 g using the Bottom Withdrawal Tube method. The particle-size distribution of the Bottom Withdrawal Tube method ranges from 0.002 to 1.000 mm. The Sieve analysis method may be used for samples with a large amount of material coarser than 0.062 mm.

The particle-size classification used in this report agrees with recommendations made by the American Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows:

Classification	Size (mm)
Clay	0.000 24 - 0.004
Silt	0.004 - 0.062
Sand	0.062 - 2.0
Gravel	2.0 - 64.0

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic material is removed and the sample is subjected to mechanical and chemical dispersion before analyzed in distilled water. Chemical dispersion is not used for native-water analysis.

6. *Accuracy and Reliability of Field Data and Computed Results*

The overall accuracy and degree of reliability of the sediment data is dependent upon many factors. Some of the more important of these are:

(a) accuracy and reliability of streamflow records;
(b) regime of the river;
(c) type of sampling equipment used to collect the suspended sediment samples;
(d) frequency of suspended sediment discharge measurements;
(e) frequency of individual sampling;
(f) quality of the relationship between the average suspended sediment concentration in the cross section and the concentration of the individual samples;
(g) frequency and method of bed material sampling;
(h) frequency and method of bed load measurements;
(i) accuracy and reliability of the laboratory analysis;
(j) selected methods of computation of the suspended sediment discharge;
(k) interpretation and extrapolation of sediment records.

An assessment of the quality of the records can be made by an examination of the occurrence of the symbol (S) on the daily mean concentrations.

In general, data collected during open-water periods are more reliable than those collected during periods of ice conditions or those records obtained by estimation. Further, water level data collected utilizing a water-stage recorder are more reliable and accurate than those using a manual gauge only, especially for small or flashy streams.

Une analyse granulométrique a été effectuée pour certains échantillons de sédiments en suspension ayant un poids brut dans l'intervalle de 0.15 à 5 g par la méthode de la burette (extraction des sédiments déposés, à divers intervalles). La distribution de la taille des particules déterminée par cette méthode varie de 0.002 à 1.000 mm. La méthode de tamisage peut être employée pour les échantillons ayant une forte quantité de particules de taille supérieure à 0.062 mm.

La classification granulométrique qui est utilisée dans la présente publication est conforme aux recommandations faites par l'*American Geophysical Union Subcommittee on Sediment Terminology*. La classification est la suivante:

Classification	Taille (mm)
Argile	0.000 24 - 0.004
Limon	0.004 - 0.062
Sable	0.062 - 2.0
Gravier	2.0 - 64.0

La répartition granulométrique qui est fournie dans cette publication, n'est pas obligatoirement représentative de toutes les particules qui sont transportées par un cours d'eau donné. La plupart des matières organiques sont extraites de l'échantillon qui est ensuite soumis à une dispersion mécanique et chimique avant d'être analysé dans de l'eau distillée. La dispersion chimique ne sert pas à l'analyse de l'eau naturelle.

6. *Exactitude des données et des résultats*

L'exactitude des données sur les sédiments dépend de nombreux facteurs. On peut citer, parmi les plus importants:

(a) l'exactitude des données sur les débits;
(b) le régime d'un cours d'eau;
(c) le type d'appareil d'échantillonnage utilisé pour prélever les échantillons de sédiments en suspension;
(d) la fréquence des mesures du débit des sédiments en suspension;
(e) la fréquence des échantillonnages isolés;
(f) la qualité du rapport entre la concentration moyenne des sédiments en suspension dans une section transversale et la concentration des échantillons isolés;
(g) la fréquence des échantillonnages des matériaux de fond et la méthode utilisée;
(h) la fréquence des mesures du charriage de fond et la méthode utilisée;
(i) l'exactitude des analyses de laboratoire;
(j) les méthodes de calcul du débit des sédiments en suspension;
(k) l'interprétation et l'extrapolation des données sur les sédiments.

La qualité des données peut être évaluée d'après la fréquence d'utilisation du symbole (S), avec les données sur la concentration journalière moyenne.

En général, les données recueillies au cours des périodes d'eau libre sont plus sûres que celles qui sont obtenues au cours des périodes de glaces ou par estimation. De plus, les données sur le niveau des eaux qui sont mesurées à l'aide d'un limnigraphe sont plus certaines et plus exactes que celles qui sont mesurées à l'aide d'une jauge manuelle seulement, surtout dans le cas des petits cours d'eau ou des cours d'eau à crues très rapides.

METHOD OF TABULATION OF SEDIMENT DATA

For stations where the suspended sediment load was obtained, the following data are given where available:

1. The table of *Suspended Sediment Load* includes the daily mean discharge in cubic metres per second, the daily mean concentration in milligrams per litre, and the daily suspended sediment load in tonnes per day. The total monthly discharge and total monthly sediment load are also given for each month of record.

For stations where the sediment load in tonnes per day are produced for complete or partial years, the *Total Suspended Load* for the period is given in the descriptive information.

For stations where only suspended sediment concentrations are obtained, the table of *Suspended Sediment Load* will not be given.

Additional descriptive information about the sediment station is also given and will indicate the following, where applicable.

Location – the latitude and longitude co-ordinates of the location of the gauge are given. For stations where the gauge is located an appreciable distance from the discharge measurement section, these co-ordinates give the location of the discharge measurement section.

Drainage area – refers to that area enclosed by a topographic divide such that direct surface runoff from precipitation would drain by gravity into the stream upstream from the location of the station.

Type of Flow – where the flow is known to be natural, this is indicated. The flow of water in many river systems is affected by upstream regulation. In some cases, the extent of this regulation is not known and therefore is not indicated. However, where the regulation is known to be "appreciable", this is indicated as well as the year that the regulation began, if known.

Type of Gauge – refers to the installation or method used to obtain water level or discharge data:

(a) Manual – a non-recording type of gauge from which observations of stage normally are obtained once daily.

(b) Recording – a water-stage recorder from which continuous water levels are obtained on an analog chart. For most International Gauging Stations located in the United States, water level records are obtained utilizing a digital recorder.

International Gauging Station – on waters adjacent to the international boundary, certain gauging stations have been

PRÉSENTATION DES TABLEAUX DE DONNÉES SUR LES SÉDIMENTS

Pour les stations de mesure du débit des sédiments en suspension, les données suivantes sont présentées, pour autant qu'elles sont disponibles:

1. Le tableau concernant le *débit des sédiments en suspension* (The table of Suspended Sediment Load) donne le débit journalier moyen de l'eau, en mètres cubes par seconde, la concentration journalière moyenne, en milligrammes par litre, et le débit journalier des sédiments en suspension, en tonnes par jour. Chaque mois les données indiquent également les débits mensuels totaux de l'eau et des sédiments.

Dans le cas des stations où le débit des sédiments, en tonnes par jour, est fourni pour une année complète ou une partie de l'année, le total pour la période est indiqué.

Dans le cas des stations où seule la concentration des sédiments en suspension est obtenue, ce tableau est absent.

Des renseignements descriptifs additionnels au sujet de la station sont également présentées. On peut y apporter les précisions suivantes:

Emplacement (Location) – La latitude et la longitude de la station de jaugeage sont indiquées. Dans les cas où l'équipement de mesure est situé à une bonne distance de la section où le jaugeage est effectué, on indique les coordonnées de cette section.

Superficie du bassin versant (Drainage area) – Désigne la zone délimitée par une ligne de faîte de sorte que l'écoulement de surface direct provenant des précipitations est entraîné par gravité vers le cours d'eau, en amont de la station.

Type de débit (Type of Flow) – Un débit reconnu comme naturel est indiqué. Le débit de nombreux réseaux hydrographiques est modifié par une régularisation effectuée en amont. Dans certains cas, l'importance de cette régularisation n'est pas connue, et elle n'est donc pas indiquée. Cependant, quand on sait que la régularisation est d'une certaine importance, on l'indique, ainsi que l'année où elle a débuté (si elle est connue).

Type de jauge (Type of Gauge) – Il s'agit des jauges ou des méthodes de jaugeage utilisées pour obtenir les données sur le niveau ou le débit d'un cours d'eau.

(a) *Manuel* (Manual) – Indique qu'un appareil non enregistreur est employé pour obtenir normalement une fois par jour les données sur le niveau et le débit du cours d'eau.

(b) *Enregistreuse* (Recording) – Indique qu'un limnigraphe permet de mesurer de façon continue le niveau des eaux qui est tracé sur un graphique. La plupart des stations internationales de jaugeage des États-Unis obtiennent les données sur le niveau des eaux à l'aide d'un enregistreur numérique.

Station internationale de jaugeage (International Gauging Station) – Dans les eaux contiguës aux frontières, on a

designated as "International" and records are approved jointly. Differences between figures published herein and corresponding figures in United States Water Supply Papers are due to variations in automated data processing techniques.

Contributed Data – if data were supplied in their entirety or partially by an outside agency, the name of this co-operating agency is given.

Remarks – contains a statement pertaining to the sediment sample collection.

2. The table of *Instantaneous Suspended Sediment Concentration* for depth-integrating samples includes the following: Date and Time of the sample collection; Water Temperature; Instantaneous Discharge at time of sampling, (if not available the daily mean discharge is given and indicated by a symbol); Single Sampling Vertical location; Dissolved Solids; Percent Sand, Silt and Clay; Type of Sampler used. The particle-size distribution in percent in millimetres and the percent Sand, Silt and Clay, is given where available.

The Single Sampling Vertical Location is defined by many symbols, which are as follows, where applicable:

DIGITS - 5, 14, 130, etc., is the distance in metres from the initial point
WERB - Water's Edge RIGHT Bank
WELB - Water's Edge LEFT Bank
1QRB - One-quarter the distance FROM the RIGHT Bank
3QRB - Three-quarters the distance FROM the RIGHT Bank
1QLB - One-quarter the distance FROM the LEFT Bank
3QLB - Three-quarters the distance FROM the LEFT Bank
MID - MID STREAM
MULT - Composite sediment measurement

For the suspended sediment measurements, the Date; Time; Water Temperature at time of sampling; Discharge computed for each sampling panel; Concentration; Sampling Vertical; Dissolved Solids; Percent Sand, Silt and Clay; Type of Sampler used; and the Particle-size distribution of the Sand, Silt and Clay, in percent is given where available.

3. The table of *Split Vertical Suspended Sediment* for depth-integrating samples includes the following: Date and Time of the sample collection; Water Temperature; Instantaneous Discharge at time of sampling, (if not available the daily mean discharge is given and indicated by a symbol); Sampling Vertical; Depth of Sample (giving the depth sampled from and the depth sampled to); Concentration of Sample, in milligrams per litre, Dissolved solids, in milligrams per litre; and the Particle-size distribution in percent in millimetres and the percent Sand, Silt and Clay are also given.

désigné certaines stations comme «internationales», et les données obtenues sont approuvées par les pays concernés. Les différences entre les chiffres publiés dans la présente publications et dans les *United States Water Supply Papers* sont dues à des variantes dans les techniques de traitement automatique des données.

Données fournies (Contributed Data) – Lorsqu'un organisme extérieur a fourni toutes les données ou une partie des données, son nom est indiqué.

Remarques (Remarks) – Renseignements au sujet du prélèvement des échantillons de sédiments.

2. Le tableau des *concentrations instantanées de sédiments en suspension* (The table of Instantaneous Suspended Sediment Concentration) pour les échantillons obtenus par intégration selon la profondeur comprend: la date et l'heure de prélèvement; la température de l'eau; son débit instantané au moment de l'échantillonnage (s'il n'est pas connu, le débit journalier moyen, avec symbole); l'emplacement de la verticale d'échantillonnage; la concentration des matières dissoutes; les pourcentages de sable, de limon et d'argile; le type d'échantillonneur employé; et la granulométrie du sable, du limon et de l'argile, en pourcentage en millimètres et le pourcentage des particules est donné lorsqu'il est disponible.

Le site vertical d'échantillonnage unique est défini par plusieurs symboles dont les suivants dans certains cas :

CHIFFRE - 5, 14, 130, etc., désigne la distance en mètres à partir du point initial
WERB - Bord de l'eau, rive DROITE
WELB - Bord de l'eau, rive GAUCHE
1QRB - Un quart de la distance À PARTIR de la rive DROITE
3QRB - Trois quarts de la distance À PARTIR de la rive DROITE
1QLB - Un quart de la distance À PARTIR de la rive GAUCHE
3QLB - Trois quarts de la distance À PARTIR de la rive GAUCHE
MID - MI-DÉBIT
MULT - Mesure des sédiments mixtes

Pour les mesures des sédiments en suspension, la date, l'heure, la température de l'eau au moment de l'échantillonnage, le débit calculé pour chaque tranche de la section d'échantillonnage, la concentration et la verticale d'échantillonnage, la concentration des matières dissoutes; les pourcentages de sable, de limon et d'argile; le type d'échantillonneur employé; et la granulométrie du sable, du limon et de l'argile, en pourcentage des particules est donnée lorsqu'elle est disponible.

3. Le tableau des *sédiments en suspension fractionnés pris à la verticale* (The Table of Split Vertical Suspended Sediment) pour les échantillons obtenus par intégration selon la profondeur comprend les éléments suivants . la date et l'heure de l'échantillonnage; la température de l'eau; le débit instantané au moment de l'échantillonnage (s'il n'est pas disponible, on donne le débit moyen quotidien et on l'indique par un symbole), la verticale d'échantillonnage; la profondeur (donner la profondeur à laquelle l'échantillon a été pris); et la profondeur à laquelle l'échantillon a été attributé la concentration des échantillons, en milligrammes par litre; la concentration des matières dissoutes, en milligrammes par litre; la distribution des sédiments de la taille de particules en pourcentage en millimètres; le pourcentage de sable, de limon et d'argile.

4. The table of *Point Integrating Particle-size of Suspended Sediment* includes the following: Date and Time of the sample collection; Water Temperature; Panel Discharge for each sampling vertical; Sampling Vertical; Depth of Sample; Concentration of Sample, in milligrams per litre; Dissolved Solids in milligrams per litre, and the Particle-size distribution in percent in millimetres and the percent Sand, Silt and Clay are also given.

5. The table of *Bed Load Particle-size* includes the following: Date and Time of the sample collection; Panel Discharge; Sampling Vertical and the Type of Sampler used in the collection of the sample and the Particle-size distribution, in percent in millimetres, for each sample of bed load collected.

6. The table of *Bed Material Particle-size* includes the following: Date and Time of the sample collection; Panel Discharge; Sampling Vertical and the Type of Sampler used in the collection of the sample and the Particle-size distribution, in percent in millimetres, for each sample of bed material collected.

7. The table of *Historical Sediment Data Summary* gives the following, for the period of record, where applicable.

   (a) Record Summary
   (b) Type of Sampling
   (c) Sampled Concentration, maximum and minimum
   (d) Suspended Sediment Load, maximum daily and the total, for the period, in tonnes
   (e) Summary, including mean load, the historical mean load and the standard error of the mean in percent.

(a) The *Record Summary* gives the months of record that data are available. If the complete month is on file the symbol (C) is shown, while partial months of data are indicated by the symbol (P). Months with no data on file are indicated by (-).

(b) The *Type of Sampling* indicates the type of sampling method used to collect the sediment samples during the period of operation. If the samples were collected by manual methods this is indicated by "MANUAL." If the samples were collected by a pump sampler or some other automatic method this is indicated by "AUTO." If both manual and automatic sampling methods were used this is indicated by "DUAL."

(c) The *Sampled Concentration* gives the maximum and minimum concentration, in milligrams per litre, and the date of collection for each year of record. The extreme recorded for the period of record is indicated by an asterisk (*). If more than one maximum or minimum, of the same value, occurred during the year only the date of the first occurrence is identified by the asterisk.

(d) The *Suspended Sediment Load* gives the maximum daily load, in tonnes, and the date of occurrence. The extreme recorded is indicated by an asterisk (*). The Total for the Period gives

4. Le tableau de la *granulométrie des échantillons ponctuels et intégrés des sédiments en suspension* (The table of Point Integrating Particle-size of Suspended Sediment) comprend: la date et l'heure de prélèvement de l'échantillon, la température de l'eau, le débit de la tranche de la section pour chaque verticale d'échantillonnage, la verticale d'échantillonnage, la profondeur de l'échantillon, la concentration des échantillons, en milligrammes par litre, la concentration des matières dissoutes, en milligrammes par litre, et granulométrie en millimètres et en pourcentage du sable, du limon et de l'argile.

5. Le tableau de la *granulométrie des sédiments charriés* (The table of Bed Load Particle-size) comprend: la date et l'heure de prélèvement de l'échantillon, le débit de la tranche de la section, la verticale d'échantillonnage et le type d'échantillonneur employé et le pourcentage en millimètres des particules pour chaque échantillon recueilli du charriage.

6. Le tableau de la *granulométrie des matériaux du lit* (The table of Bed Material Particle-size) comprend: la date et l'heure de prélèvement de l'échantillon, le débit de la tranche de la section, la verticale d'échantillonnage et le type d'échantillonneur employé et le pourcentage en millimètres des particules pour chaque échantillon recueilli.

7. Le tableau du *sommaire chronologique des données sur les sédiments* (The table of Historical Sediment Data Summary) donne, pour la période pour laquelle les données sont disponibles, les renseignements suivants lorsque de telles données existent:

   (a) Le sommaire du relevé
   (b) Le type d'échantillonnage
   (c) Les concentrations mesurées, maximum et minimum
   (d) Le débit des sédiments en suspension, maximum quotidien et le total pour la période en tonnes
   (e) Résumé, comprend le débit moyen, le débit moyen chronologique et l'erreur type de la moyenne en pourcentage.

(a) Le *sommaire du relevé* donne les mois de relevé pour lesquels les données sont disponibles. Le symbole (C) indique que les données sont disponibles pour tout le mois. Le symbole (P) indique que ces données ne sont disponibles que pour une partie du mois. Enfin, on indique par (-) les mois qui n'ont pas de données.

(b) Le *type d'échantillonnage* indique le type de méthode d'échantillonnage que l'on utilise dans le prélèvement des échantillons de sédiments pendant la période d'exploitation. Si le prélèvement des échantillons se fait par des méthodes manuelles, on indique «MANUEL». Si le prélèvement des échantillons se fait au moyen d'échantillonneur à pompe ou par quelque autre méthode automatique, on indique «AUTO». Si on utilise à la fois des méthodes d'échantillonnage manuelles et automatiques, on indique «DOUBLE».

(c) Pour les *concentrations mesurées* (Sampled Concentration), on donne la concentration maximale et la concentration minimale, en milligrammes par litre, et leur date d'obtention pour chaque année de relevé. La valeur extrême enregistrée est indiquée par un astérisque (*). Si la valeur du maximum ou du minimum a été mesurée plus d'une fois pendant l'année, on signale, par l'astérisque, seulement la date de la première mesure.

(d) Sous le *débit des sédiments en suspension* (Suspended Sediment Load), on donne le débit journalier maximal, en tonnes, et sa date de mesure. Le débit extrême enregistré est indiqué

the total load for the period or year, in tonnes. The extreme recorded is also indicated by an asterisk (*). If more than one maximum or minimum, of the same value, occurred during the year only the date of the first occurrence is identified by the asterisk. A load which has been revised since the previous publication is marked with the symbol (R) for Revision.

(e) The *Summary* gives the *Mean Load* and the *Historical Mean Load* in tonnes.

The *Standard Error of the Mean* % is calculated using the following equations:

$$SEM = \frac{S}{\bar{x}\sqrt{n}} \times 100\%$$

and

$$S = \sqrt{\frac{\Sigma (x - \bar{x})^2}{n - 1}}$$

where SEM is the Standard Error of the Mean.

- S is the Standard Deviation of the annual mean loads.
- x is the annual Mean Load variable.
- $\bar{x}$ is the Historical Mean Load or the arithmetic mean of the annual Mean Loads.
- n is the number of years for which there is an annual Mean Load.

For stations with only instantaneous samples, this table will not include the *Suspended Sediment Load* or the statistical information in the *Summary*.

DEFINITION OF TERMS

The following definitions are given to clarify the terms used in this publication:

Automatic pump sample is an individual water-sediment mixture pumped from a fixed point in a stream.

Bed load is that material moving in almost continuous contact with the streambed, being rolled or pushed along the bottom by the force of the water.

Bed material is the sediment mixture of which the streambed is composed.

Daily load is the suspended sediment load expressed in tonnes for a particular day. The daily load is obtained by multiplying the daily mean sediment concentration (mg/L) by the daily mean discharge (m^3/s) and the conversion factor, 0.0864.

Daily mean concentration is a time-weighted mean value and is computed from a manually constructed concentration curve. The mean concentration value may be determined arithmetically or graphically. The arithmetic mean is obtained either by (1) selecting values from the concentration graph that represents uniform intervals of time and taking the arithmetic average or by (2) selecting values from the graph that represent unequal intervals of time and weighing these values by the

par un astérisque (*). Le débit total pour la période ou pour l'année est indiqué. La valeur extrême est également signalée par un astérisque (*). Si la valeur du maximum ou du minimum a été mesurée plus d'une fois pendant l'année, on signale, par l'astérisque, seulement la date de la première mesure. La lettre R indique qu'une valeur du débit a été révisée depuis la dernière publication.

(e) Le *résumé* donne le *débit moyen* et le *débit moyen chronologique*, en tonnes.

L'*erreur-type de la moyenne* % (Standard Error of the Mean), est calculée à l'aide des équations suivantes:

$$SEM = \frac{S}{\bar{x}\sqrt{n}} \times 100\%$$

et

$$S = \sqrt{\frac{\Sigma (x - \bar{x})^2}{n - 1}}$$

où SEM est l'erreur type de la moyenne.

- S est l'écart type des débits moyens annuels.
- x est la variable du débit moyen annuel.
- $\bar{x}$ est le débit moyen chronologique ou la moyenne arithmétique des débits moyens annuels.
- n est le nombre d'années où il y a un débit moyen annuel.

Dans le cas des stations ne prélevant que des échantillons instantanés, ce tableau ne donnera pas le *débit des sédiments en suspension* ni les données statistiques du *résumé*.

DÉFINITION DES TERMES

Les définitions suivantes sont présentées afin de faciliter la compréhension des termes utilisés dans la présente publication:

Échantillonnage automatique à l'aide d'une pompe (Automatic pump sample): Prélèvement d'un mélange de sédiments et d'eau au moyen d'une pompe fonctionnant automatiquement, en un point précis d'un cours d'eau.

Charriage (Bed load): Matières roulées ou poussées sur le fond sous l'action de l'eau, mais restant en contact presque permanent avec le fond.

Matériau du lit (Bed material): Mélange de sédiments composant le lit d'un cours d'eau.

Débit journalier des sédiments en suspension (Daily load): Débit des sédiments en suspension exprimé en tonnes par jour, pour une journée donnée. On l'obtient en multipliant la concentration journalière moyenne des sédiments (mg/L) par le débit journalier moyen de l'eau (m^3/s) et le facteur de conversion 0.0864.

Concentration journalière moyenne (Daily mean concentration): Moyenne pondérée en fonction du temps, calculée à partir d'une courbe de la concentration établie manuellement. La valeur de la concentration moyenne peut être déterminée arithmétiquement ou graphiquement. Pour la déterminer arithmétiquement, on peut, soit choisir sur la courbe des valeurs représentant des intervalles uniformes de temps et faire la moyenne arithmétique, soit choisir sur cette courbe

time intervals represented by the concentrations. For graphical explanation refer to *Office Procedures for Sediment Data Computations* and for the automated graphical explanation refer to *Automated Hydrometric Computation Procedures*.

Depth-integrated sediment sample is a suspended sediment sample collected at a single vertical in a cross section in a sampler moving vertically at a constant transit rate and represents an average sample for that part of the depth ranging from the water surface to about nine centimetres above the streambed.

Instantaneous suspended sediment sample is a sample collected at a fixed vertical in a river cross sectio

Measured suspended sediment discharge is the suspended sediment discharge that can be computed from stream discharge and the concentration of sediment determined from depth-integrated sediment samples.

Particle-size analysis is the process of determining the size distribution of particles in a sediment sample.

Point-integrated sediment sample is a sample of the water-sediment mixture taken over a specified period of time at a fixed point and depth in a river cross section.

Sediment is fragmental material which has been deposited, eroded or transported by a flowing stream.

Sediment hydrograph is a graph showing the variation of suspended sediment concentration or sediment discharge with respect to time.

Single sample is a sample taken at a selected permanent vertical in a cross section. Two bottles of water-sediment mixture make up each single sample.

Single sampling vertical is a selected permanent vertical in a cross section in which single suspended sediment samples are collected.

Suspended sediment is sediment that moves in suspension in water either as a colloid or through the influence of the upward component of turbulent currents.

Suspended sediment concentration is the ratio of the weight of dry solids in a water-sediment mixture to the volume of the mixture. The units of this ratio are "milligrams per litre" (mg/L).

Suspended sediment load is the quantity of suspended sediment transported through a cross section per unit of time.

des valeurs qui représentent des intervalles inégaux de temps et pondérer ces valeurs en fonction des intervalles de temps correspondants. En ce qui concerne les méthodes graphiques, consulter *Méthodes de bureau pour les calculs de données sur les sédiments* et, pour la méthode automatisée, *Automated Hydrometric Computation Procedures*.

Échantillon intégré sur toute la profondeur (Depth integrated sediment sample): Échantillon des sédiments en suspension prélevé sur une verticale précise d'une section transversale d'un cours d'eau à l'aide d'un échantillonneur se déplaçant verticalement à une vitesse constante; il représente un échantillon moyen des matières en suspension entre la surface de l'eau et environ 9 cm du fond.

Échantillon instantané de sédiments en suspension (Instantaneous suspended sediment sample): Échantillon prélevé à une verticale précise d'une section transversale d'un cours d'eau.

Débit mesuré des sédiments en suspension (Measured suspended sediment discharge): Débit des sédiments en suspension qui peut être calculé à partir du débit du cours d'eau et de la concentration des sédiments déterminée à partir d'échantillons intégrés sur toute la profondeur.

Analyse granulométrique (Particle-size analysis): Détermination de la répartition de la taille des particules dans un échantillon de sédiments.

Échantillon ponctuel et intégré (Point-integrated sediment sample): Échantillon constitué d'un mélange d'eau et de sédiments, prélevé au cours d'une période de temps donnée en un point précis d'une section transversale d'un cours d'eau et à une profondeur donnée.

Sédiments (Sediment): Matières fragmentaires qui ont été déposées, érodées ou transportées par un cours d'eau.

Hydrogramme des sédiments (Sediment hydrograph): Graphique représentant la variation de la concentration des sédiments en suspension ou du débit des sédiments en fonction du temps.

Échantillon unique (Single sample): Échantillon prélevé sur une verticale permanente particulière dans une section transversale. Deux bouteilles du mélange eau-sédiments constituent un seul échantillon.

Verticale d'échantillonnage unique (Single sampling vertical): Verticale permanente d'une section transversale où des échantillons uniques de sédiments en suspension sont prélevés.

Sédiments en suspension (Suspended sediment): Matériaux qui se déplacent au sein de l'eau, soit sous forme colloïdale, soit sous l'influence des forces ascendantes des courants turbulents.

Concentration des sédiments en suspension (Suspended sediment concentration): Rapport entre le poids des matières solides sèches contenues dans un mélange eau-sédiments et le volume du mélange. Les unités employées sont les «milligrammes par litre» (mg/L).

Débit des sédiments en suspension (Suspended sediment load): Quantité de sédiments en suspension transportés par unité de temps à travers une section transversale d'un cours d'eau.

Total sediment load is the sum of the suspended sediment load and the bed load.

Unmeasured sediment load is the difference between total sediment load and measured suspended sediment load.

DEFINITION OF SYMBOLS

Symbols are located at the bottom of the data sets under the headings Time, Discharge, Concentration, and Dissolved Solids. The symbols with their definitions are listed below.

Time Symbol

E – *Estimated* – indicates estimated data. It indicates that the time of sample collection is estimated by some indirect method or comparison with other stream data.

Discharge Symbol(s)

A – *Manual Gauge* – indicates that one or more manual gauge observations per day were obtained and used as the mean for the day for a gauging station equipped with a recording gauge. This symbol is used during open-water periods only.

B – *Ice Conditions* – indicates the presence of ice at the gauging station. For gauging stations where discharge data are obtained, this symbol indicates that the presence of ice has affected the stage-discharge relationship.

E – *Estimated* – indicates estimated data. It indicates that the values recorded are estimated by some indirect method such as interpolation, extrapolation, comparison with other streams or by comparison with meteorological data.

H – *Daily Mean Discharge* – is the mean discharge for a particular day, usually referred to as the "daily mean discharge".

V – *Daily Mean; Manual Gauge* – is the mean discharge for a particular day and indicates that one or more manual gauge observations per day were obtained and used as the mean for the day.

W – *Daily Mean; Ice Conditions* – is the mean discharge for a particular day and indicates that the presence of ice has affected the stage-discharge relationship.

Y – *Daily Mean; Estimated* – is the mean discharge for a particular day and indicates that the value has been estimated by some indirect method.

Concentration Symbol(s)

C – *Coarse Material Present* – indicates that during the laboratory analysis coarse material (sand) was observed in the sediment sample.

Débit total des sédiments (Total sediment load): Somme du débit des sédiments en suspension et du débit charrié.

Débit non mesuré des sédiments (Unmeasured sediment load): Différence entre le débit total des sédiments et le débit mesuré des sédiments en suspension.

DÉFINITION DES SYMBOLES

Les symboles figurent au bas des séries de données et sont traités sous les rubriques Temps, Débit, Concentration, Matières solides en solution. Ces symboles avec leurs définitions sont donnés dans la liste ci-après.

Symbole du temps :

E – *Estimative* – Indique des données estimatives, c'est-à-dire que l'heure de prélèvement de l'échantillon est évaluée de façon indirecte ou par comparaison avec d'autres données sur les cours d'eau.

Symbole(s) du débit :

A – *Turbidisonde simple* – Indique qu'on a effectué à une station de jaugeage dotée d'une turbidisonde enregistreuse au moins une observation par jour à l'aide d'une turbidisonde simple et qu'on s'en est servi comme moyenne pour la journée en question. Le symbole n'est employé qu'au cours des périodes d'eau libre.

B – *Glaces* – Indique la présence de glaces à la station de jaugeage, qui ont faussé la relation hauteur-débit.

E – *Estimative* – Indique des données estimatives, c'est-à-dire que les valeurs enregistrées sont évaluées de façon indirecte, par exemple par interpolation, extrapolation, ou par comparaison avec d'autres cours d'eau ou avec des données météorologiques.

H – *Débit journalier moyen* – Débit moyen pour une journée donnée, ordinairement appelé «débit journalier moyen».

V – *Débit journalier moyen; turbidisonde simple* – Débit moyen pour une journée donnée; indique qu'on a effectué au moins une observation par jour et qu'on s'en est servi comme moyenne pour la journée en question.

W – *Débit journalier moyen; glaces* – Débit moyen pour une journée donnée; indique que la présence de glaces a faussé la relation hauteur-débit.

Y – *Débit journalier moyen; estimative* – Débit moyen pour une journée donnée; indique que la valeur a été évaluée de façon indirecte.

Symbole(s) de la concentration :

C – *Sable grossier présent* – Indique qu'au cours de l'analyse en laboratoire on a observé du sable grossier dans un échantillon de sédiments.

F – *Sample Bottle Filled* – indicates that during the laboratory analysis it was observed that the sample bottle had been filled to capacity.

G – *Organic Material Present* – indicates that during the laboratory analysis it was observed that organic material was collected in the sample bottle.

Single Vertical Symbol(s)

K – *Sampling vertical not at the regular single vertical from LEFT bank* – indicates that a sample was collected at a location from the left bank, in a cross-section, which is not at the regular single vertical.

L – *Sediment measurement vertical not at the regular measurement cross-section from LEFT bank* – indicates that the measurement sampling verticals were established from the left bank, in a cross-section which is not the regular measurement cross-section.

M – *Sediment measurement vertical* – indicates that the sampling vertical is one of several, usually five, and represents a panel width. The instantaneous discharge represents the flow for a panel width.

X – *Sampling vertical not at the regular single vertical* – indicates that a sample was collected at a location, in a cross-section, which is not at the regular single vertical. The location of the regular single vertical is given at the bottom of the Instantaneous Suspended Sediment data.

Z – *Sediment measurement vertical not at the regular measurement cross-section* – indicates that a suspended sediment measurement was collected in a cross-section which is not the regular measurement corss-section.

Note: If no symbol is present the samples have then been collected at the regular Single Vertical.

MICROFICHE

Sediment data to 1983 are available on microfiche, upon request. The data are stored in station number order by province. There are 270 frames per microfiche at 48X reduction; there is a visible heading showing the fiche number, type of data, province, beginning and ending station number and year of data, and the month/year the fiche was created. The last frame is an index of the contents of that fiche.

F – *Flacon d'échantillonnage rempli* – Indique qu'au cours de l'analyse en laboratoire on a observé que le flacon d'échantillonnage avait été complètement rempli.

G – *Substance organique présente* – Indique qu'au cours de l'analyse en laboratoire on a observé qu'une substance organique a été prélevée dans le flacon d'échantillonnage.

Symbole(s) de la verticale unique :

K – *Verticale d'échantillonnage à l'extérieur de la verticale unique habituelle à partir de la rive GAUCHE* – Indique qu'un échantillon a été prélevé à un endroit à partir de la rive gauche, dans une section transversale, mais à l'extérieur de la verticale unique habituelle.

L – *Verticale de mesure des sédiments, à l'extérieur de la section transversale de mesure habituelle à partir de la rive GAUCHE* – Indique que les verticales de mesure d'échantillonnage ont été établies à partir de la rive gauche, dans un section transversale à l'extérieur de la section transversale de mesure habituelle.

M – *Verticale de mesure des sédiments* – Indique que la verticale d'échantillonnage est l'une de plusieurs verticales, en général cinq, et qu'elle représente la dimension d'une tranche. Le débit instantané représente le débit relatif à la dimension d'une tranche.

X – *Verticale d'échantillonnage à l'extérieur de la verticale unique habituelle* – Indique qu'un échantillon a été prélevé à un endroit, dans une section transversale, mais à l'extérieur de la verticale unique habituelle. L'endroit de la verticale unique habituelle est donné à la fin des données sur les sédiments en suspension instantanés.

Z – *Verticale de mesure des sédiments, à l'extérieur de la section transversale de mesure habituelle* – Indique qu'une mesure de sédiments en suspension a été prise dans une section transversale à l'extérieur de la section transversale de mesure habituelle.

Note : S'il n'y a pas de symbole, cela indique que les échantillons ont été prélevés à la verticale unique habituelle.

MICROFICHE

Les données jusqu'à 1983 sur les sédiments sont disponibles sur microfiche. Ces données sont emmagasinées par ordre de numéro de station et par province. Chaque microfiche renferme 270 pages réduites de 48X. L'en-tête indique le numéro de la fiche, le genre de données, la province, le numéro de la première et de la dernière station, la première et la dernière année des données ainsi que le mois et l'année de création de la fiche. La dernière image donne l'index de la fiche.

EQUIVALENTS OF MEASURE

The following list of convenient equivalents of measure includes the relationship between imperial units and the International System of Units (SI).

1 inch equals 2.54 cm (centimetres)
1 foot equals 0.3048 m (metre)
1 statute mile equals 1.6093 km (kilometres)

1 cm (centimetre) equals 0.393 70 inch
1 m (metre) equals 3.2808 feet
1 km (kilometre) equals 0.621 37 mile

1 acre equals 43 560 square feet
1 acre equals 0.404 69 ha (hectare)
1 square mile equals 640 acres
1 square mile equals 2.5900 km^2 (square kilometres)
1 square mile equals 259.0 ha (hectares)

1 ha (hectare) equals 10 000 m^2 (square metres)
1 ha (hectare) equals 2.4710 acres
1 km^2 (square kilometre) equals 0.386 10 square mile

1 cubic foot equals 6.2288 imperial gallons
1 imperial gallon equals 4.546 09 L (litres)
1 imperial gallon equals 1.2010 U.S. gallons
1 U.S. gallon equals 0.133 68 cubic foot
1 cubic foot equals 0.028 317 m^3 (cubic metre)
1 m^3 (cubic metre) equals 35.315 cubic feet
1 dam^3 (cubic decametre) equals 1000 m^3 (cubic metres)
1 dam^3 (cubic decametre) equals 1 mm (millimetre) over 1 km^2 (square kilometre)

1 cubic foot per second for one day equals 1.9835 acre-feet
1 cubic foot per second for one day covers one square mile to a depth of 0.037 19 inch
1 acre-foot equals 1.2335 dam^3 (cubic decametres)
1 m^3/s (cubic metre per second) for one day equals 86.4 dam^3 (cubic decametre)
1 m^3/s (cubic metre per second) for one day covers one square kilometre to a depth of 0.0864 m (metre)

1 foot per second equals 0.6818 mile per hour
1 mile per hour equals 1.467 feet per second
1 m/s (metre per second) equals 3.6 km/h (kilometre per hour)
1 km/h (kilometre per hour) equals 0.2778 m/s (metre per second)

1 cubic foot per second equals 0.028 317 m^3/s (cubic metre per second)
1 m^3/s (cubic metre per second) equals 35.315 cubic feet per second

1 pound equals 0.453 59 kg (kilogram)
1 kg (kilogram) equals 2.2046 pounds

1 short ton (2000 pounds) equals 0.907 18 t (tonne)
1 t (tonne) equals 2204.6 pounds

degrees Celsius = 5/9 (degrees Fahrenheit - 32)
degrees Fahrenheit = 9/5 (degrees Celsius) + 32

ÉQUIVALENCES DES UNITÉS DE MESURE

Voici une liste des unités de mesure impériales et leurs équivalences dans le Système international d'unités (SI).

1 pouce vaut 2.54 cm (centimètres)
1 pied vaut 0.3048 m (mètre)
1 mille terrestre vaut 1.6093 km (kilomètre)

1 cm (centimètre) vaut 0.393 70 pouce
1 m (mètre) vaut 3.2808 pieds
1 km (kilomètre) vaut 0.621 37 mille

1 acre vaut 43 560 pieds carrés
1 acre vaut 0.404 69 ha (hectare)
1 mille carré vaut 640 acres
1 mille carré vaut 2.5900 km^2 (kilomètres carrés)
1 mille carré vaut 259.0 ha (hectares)

1 ha (hectare) vaut 10 000 m^2 (mètres carrés)
1 ha (hectare) vaut 2.4710 acres
1 km^2 (kilomètre carré) vaut 0.386 10 mille carré

1 pied cube vaut 6.2288 gallons impérials
1 gallon impérial vaut 4.546 09 L (litres)
1 gallon impérial vaut 1.2010 gallon américain
1 gallon américain vaut 0.133 68 pied cube
1 pied cube vaut 0.028 317 m^3 (mètre cube)
1 m^3 (mètre cube) vaut 35.315 pieds cubes
1 dam^3 (décamètre cube) vaut 1000 m^3 (mètres cubes)
1 dam^3 (décamètre cube) vaut 1 mm (millimètre) qui couvre 1 km^2 (kilomètre carré)

1 pied cube par seconde pendant un jour vaut 1.9835 acre-pied
1 pied cube par seconde pendant un jour couvre un volume d'un mille carré par 0.037 19 pouce
1 acre-pied vaut 1.2335 dam^3 (décamètre cube)
1 m^3/s (mètre cube par seconde) pour un jour vaut 86.4 dam^3 (décamètres cubes)
1 m^3/s (mètre cube par seconde) pour un jour couvre un kilomètre carré à une profondeur de 0.0864 m (mètre)

1 pied par seconde vaut 0.6818 mille par heure
1 mille par heure vaut 1.467 pied par seconde
1 m/s (mètre par seconde) vaut 3.6 km/h (kilomètres par heure)
1 km/h (kilomètre par heure) vaut 0.2778 m/s (mètre par seconde)

1 pied cube par seconde vaut 0.028 317 m^3/s (mètre cube par seconde)
1 m^3/s (mètre cube par seconde) vaut 35.315 pieds cubes par seconde

1 livre vaut 0.453 59 kg (kilogramme)
1 kg (kilogramme) vaut 2.2046 livres

1 tonne courte (2000 livres) vaut 0.907 18 t (tonne)
1 t (tonne) vaut 2204.6 livres

degrés Celsius = 5/9 (degrés Fahrenheit - 32)
degrés Fahrenheit = 9/5 (degrés Celsius) + 32

CO-OPERATION AND ACKNOWLEDGMENTS

Co-operative undertakings with other agencies form an important part of the activities of the Water Survey of Canada. Close co-operation has been maintained with public agencies and private organizations concerned with water resources. Data have been mutually exchanged and suspended sediment collection operations have been facilitated by the assistance received from a number of organizations.

On waters adjacent to the International Boundary, certain sediment stations are maintained by Canada (or the United States) under agreement with the United States (or Canada) and the records are collected and compiled in a manner equally acceptable to both countries. These stations are designated as "International Gauging Stations" in this publication.

For the valuable assistance and co-operation received in obtaining sediment survey records, the Water Survey of Canada is indebted to other federal and provincial organizations which are noted as contributing agencies in the summary for the year. A list of these agencies may be found in the *Sediment Data Reference Index*.

COOPÉRATION ET REMERCIEMENTS

Le travail entrepris en coopération avec d'autres organismes représente une partie importante des activités de la Division des relevés hydrologiques du Canada. On a maintenu une étroite collaboration avec les organismes, publics ou privés, qui s'intéressent aux ressources en eau. On a échangé des données sur les sédiments, et l'assistance fournie par certains organismes a facilité les opérations d'échantillonnage des sédiments en suspension.

Dans les eaux adjacentes à la frontière internationale, les stations dépendent du Canada ou des États-Unis selon l'accord intervenu entre les deux pays, et les relevés sont faits et compilés de façon à satisfaire les deux pays. Ces stations sont nommées «Stations internationales de jaugeage» dans la présente publication.

La Division des relevés hydrologiques du Canada est redevable à plusieurs organismes fédéraux et provinciaux, dont les noms apparaissent dans le sommaire de l'année, de l'aide et de la collaboration qu'ils lui ont apportées pour l'obtention des données sur les sédiments. On trouvera également les noms des organismes qui ont fourni des données dans l'*Index de référence des données sur les sédiments*.

REVISIONS

A number of corrections or revisions have been made to previously published data. Many of these were required because of typographical or computational errors which were exposed when the data were stored on magnetic tape and monthly means were re-calculated by computer. Other errors were discovered or different interpretations of basic data were made during the systematic review of historical streamflow data.

Revisions to daily discharges or sediment data are not published at present. However, those stations where a systematic review has been conducted are identified in the Surface Water Data Reference Index publication. The Historical Streamflow Summary publications contain revisions to monthly and annual mean discharges, and annual extremes of discharge. Revisions, corrections or additions made to discharges and sediment after January 1, 1980, are indicated by an "R" symbol in the data summaries. Detailed information on revisions to historical data is available from the appropriate Regional Chief.

RÉVISIONS

On a corrigé ou révisé des données déjà publiées. Il a été nécessaire d'effectuer plusieurs corrections, car on a relevé des erreurs typographiques ou de calcul lorsqu'on a enregistré les données sur rubans magnétiques et qu'on a recalculé les moyennes mensuelles à l'aide d'un ordinateur. On a aussi relevé d'autres erreurs ou fait des interprétations différentes de certaines données de base au cours de la révision systématique des données historiques sur le débit.

Les corrections apportées aux débits journaliers ou aux données sur les sédiments ne sont pas publiées, du moins pour le moment. Cependant, les stations où on a effectué une révision systématique sont indiquées dans l'*Index de référence des données sur les eaux de surface*. Les publications intitulées *Sommaire chronologique de l'écoulement* contiennent des données révisées sur les débits mensuels et annuels moyens et les extrêmes annuels du débit. Les révisions, corrections ou ajouts apportés aux données sur les débits et sur les sédiments après le 1er janvier 1980 sont indiqués par la lettre R dans les résumés des données. On peut obtenir plus de détails sur les révisions en s'adressant au chef régional concerné.

ALBERTA

ATHABASCA RIVER AT MCMURRAY - STATION NO. 07CC002

LOCATION: LAT 56 44 00 N LONG 111 22 30 W
DRAINAGE AREA: 100 000 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: MANUAL

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	PERCENT SILT	PERCENT CLAY
APR 18	19:45	0.0	1380	MID	D48	343	184	25	32	57	66	82	91	97	100				9	59	32
APR 19	21:00	1.0	1280	MID	D48	223															
APR 20	20:00	2.0	1370	MID	D48	245															
APR 21	22:00	2.0	988	MID	D48	288															
APR 22	20:30	2.0	982	MID	D48	230															
APR 23	19:10	3.5	910	MID	D48	197	156														
APR 25	19:00	3.0	806	MID	D48	177															
APR 26	20:00	5.0	756	MID	D48	171															
APR 27	21:00	8.0	733	MID	D48	153															
APR 28	21:30	7.0	708	MID	D48	128															
APR 29	20:00	8.0	702	MID	D48	113															
APR 30	16:30	8.0	710	MID	D48	138	190														
MAY 01	21:00	9.0	727	MID	D48	94															
MAY 02	18:00	11.0	741	MID	D48	82															
MAY 03	20:45	12.0	762	MID	D48	56															
MAY 04	21:00	11.0	775	MID	D48	75															
MAY 06	16:00	13.0	778	MID	D48	102	183														
MAY 08	19:30	10.0	865	MID	D48	79															
MAY 09	15:00	7.0	907	MID	D48	115															
MAY 11	19:30	10.0	858	MID	D48	117															
MAY 12	20:00	10.0	827	MID	D48	122															
MAY 14	16:30	7.0	783	MID	D48	148	148														
MAY 16	17:00	11.0	916	MID	D48	151															
MAY 24	20:00	13.0	871	MID	D48	82															
MAY 25	19:45	13.0	886	MID	D48	56															
MAY 26	16:30	12.0	885	MID	D48	52															
MAY 27	17:00	11.0	871	MID	D48	43															
MAY 28	19:45	11.0	855	MID	D48	71															
MAY 29	19:00	12.0	853	MID	D48	86	170														
MAY 30	13:00	13.0	841	MID	D48	52															
JUN 02	16:00	13.0	921	MID	D48	111															
JUN 03	16:30	10.0	1050	MID	D48	92															
JUN 04	16:00	12.0	1110	MID	D48	201	181														
JUN 05	20:30	11.0	1110	MID	D48	207	189														
JUN 06	18:00	10.0	1410	MID	D48	224	193														
JUN 08	18:30		1040	MID	D48	157	171														
JUN 09	17:00		882	MID	D48	84															
JUN 10	18:30		870	MID	D48	131															
JUN 12	21:00		1260	MID	D48	543	189														
JUN 13	19:00		1220	MID	D48	232	134														
JUN 25	17:00		882	MID	D48	188	182														
JUN 26	18:30		892	MID	D48	187															
JUN 27	18:00		1030	MID	D48	131															
JUN 28	21:30		877	MID	D48	155															
JUN 29	20:00		801	MID	D48	85															
JUN 30	18:45		831	MID	D48	86															
JUL 01	19:00		782	MID	D48	77	143														
JUL 02	18:30		742	MID	D48	70															
JUL 10	17:00		870	MID	D48	170	187														
JUL 11	22:00		878	MID	D48	74	124														
JUL 12	15:00		848	MID	D48	75	126														
JUL 13	18:30		800	MID	D48	73	130														

NOTE : SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1987

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)			SAMPLED CONCENTRATION MINIMUM (mg/L)			SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1973	PP-PCCCCCC--	MANUAL	4 040	JUN 17	*	14	FEB 28		---	---	---	---	---	---
1974	CCCCCCCCCC--	MANUAL	1 330	JUL 17		18	OCT 11		---	---	---	---	---	---
1975	P-PPCCCCCP--	MANUAL	1 800	JUL 02		7	MAR 15		---	---	---	---	---	---
1976	CCCCCCCCCC--	MANUAL	1 210	AUG 23		8	JAN 18		---	---	---	---	---	---
1977	---CCCCCCC--	MANUAL	1 820	JUN 03		20	OCT 24		---	---	---	---	---	---
1978	CCCCCCCCCCCC	MANUAL	1 600	JUN 20		5	FEB 03	*	---	---	---	---	---	---
1979	--CCCCCCCP-	MANUAL	1 820	JUN 18		5	MAR 15		---	---	---	---	---	---
1980	----PCCCCC--	MANUAL	820	AUG 07		32	OCT 10		---	---	---	---	---	---
1981	----PCCCC---	MANUAL	599	JUN 07		15	SEP 15		---	---	---	---	---	---
1982	----PCCCC---	MANUAL	2 860	JUL 08		52	SEP 01		---	---	---	---	---	---
1983	----PCCCP---	MANUAL	45	JUN 7		6	SEP 8		---	---	---	---	---	---
1984	---PCCCC----	MANUAL	649	MAY 24		20	AUG 31		---	---	---	---	---	---
1985	----CCCCP---	MANUAL	827	JUL 8		45	JUN 15		---	---	---	---	---	---
1986	---PCCCCCC--	MANUAL	3 680	JUL 22		17	OCT 8		---	---	---	---	---	---
1987	---CCCC-----	MANUAL	543	JUN 12		43	MAY 27		---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

ALBERTA

ATHABASCA RIVER NEAR WINDFALL - STATION NO. 07AE001

LOCATION: LAT 54 12 25 N LONG 115 03 45 W
DRAINAGE AREA: 19 800 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)		TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
APR 22	13:45	5.0	74.1	120	K	DH59	6	247														
JUN 15	12:30	13.0	755	144		DH59	231	108														
JUL 15	09:00	14.0	394	20.0	X	DH59	29	142														
AUG 06	12:00	12.0	832	WERB		DIP	186															
SEP 10	12:00	13.0	268	144		DH59	15	157														
OCT 07	15:00	7.0	172	144		DH59	12	171														

NOTE : SINGLE VERTICAL IS UNDETERMINED FOR 1987

VERTICAL SYMBOL(S): K - NOT AT REGULAR SINGLE SAMPLING VERTICAL, FROM LEFT BANK
X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1974	--------PP---	MANUAL	31	AUG 28	6	SEP 25	---	---	---	---	---	---
1975	----PP--P---	MANUAL	89	JUN 17	6	SEP 25	---	---	---	---	---	---
1976	---PPP-PP---	MANUAL	236	JUN 22	10	SEP 22	---	---	---	---	---	---
1977	----PP--P---	MANUAL	185	JUN 22	30	SEP 28	---	---	---	---	---	---
1978	---PPPPPPP--	MANUAL	813	JUN 08	6	OCT 31	---	---	---	---	---	---
1979	----PPPPPP--	MANUAL	832	MAY 29	7	OCT 30	---	---	---	---	---	---
1980	---PPPPPPP--	MANUAL	1 810	JUN 08 *	11	OCT 15	---	---	---	---	---	---
1981	---PPPPPPP--	MANUAL	80	MAY 19	6	OCT 07	---	---	---	---	---	---
1982	------PP-P---	MANUAL	884	JUL 07	34	SEP 28	---	---	---	---	---	---
1983	------PPPP---	MANUAL	67	JUN 08	8	SEP 27	---	---	---	---	---	---
1984	----P-P------	MANUAL	201	JUL 3	8	MAY 2	---	---	---	---	---	---
1985	----PPP-PP--	MANUAL	80	MAY 29	4	OCT 8 *	---	---	---	---	---	---
1986	----PPPP--P-	MANUAL	185	JUN 5	5	NOV 4	---	---	---	---	---	---
1987	---P-PPPPP--	MANUAL	231	JUN 15	5	APR 22	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

BATTLE RIVER NEAR THE SASKATCHEWAN BOUNDARY - STATION NO. 05PE004

LOCATION: LAT 52 51 23 N LONG 110 01 06 W
DRAINAGE AREA: 24 100 km²
TYPE OF FLOW: REGULATED SINCE 1973
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)		TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
APR 07	10:10	1.0	77.8	32.0	X	DH59	2180	309	9	11	19	28	43	81	80	97	100			39	50	11
APR 14	10:20	8.0	43.4	40.0		DH59	887	388	15	16	31	37	51	82	74	96	100			38	44	18
APR 28	10:20	12.0	31.1	40.0		DH59	319	C 437														

NOTE : SINGLE VERTICAL LOCATED AT 40.0 METRES FOR 1987

CONCENTRATION SYMBOL(S): C - COARSE MATERIAL PRESENT

VERTICAL SYMBOL(S): X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

BATTLE RIVER NEAR THE SASKATCHEWAN BOUNDARY - STATION NO. 05PE004

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)				SAMPLED CONCENTRATION MINIMUM (mg/L)				SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)			SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	HISTORICAL STANDARD ERROR OF MEAN %
1980	---PPPPPP-P--	MANUAL	714	APR	16		17	JUN	28		---	---		---	---	---	---
1981	---CCPPPP-P--	MANUAL	392	APR	08		7	JUL	29		987	APR	05 *	13 400 *	---	---	---
1982	---PPPPPP-P--	MANUAL	1 260	MAY	10		38	JUL	07		---	---		---	---	---	---
1983	---PPPPPP-P--	MANUAL	480	APR	13		7	NOV	01		---	---		---	---	---	---
1984	---PP-P-PP--	MANUAL	132	OCT	3		18	JUL	31		---	---		---	---	---	---
1985	---PPPPP-P--	MANUAL	1 180	APR	10		8	AUG	21 *		---	---		---	---	---	---
1986	---P-PPPPPP-	MANUAL	701	APR	7		21	JUL	3		---	---		---	---	---	---
1987	---P--------	MANUAL	2 180	APR	7	*	319	APR	28		---	---		---	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

BEAVER RIVER AT COLD LAKE RESERVE - STATION NO. 05AD005

LOCATION: LAT 54 21 15 N LONG 110 13 00 W
DRAINAGE AREA: 14 500 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)		TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAY 04	16:30	12.0	37.1	---	X	DIP	38	171														
JUN 05	07:40	16.0	21.8	30.0	K	DIP	28	181														
AUG 17	17:30	18.0	5.20	7.4	K	DIP	5	230														

NOTE SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1987

VERTICAL SYMBOL(S): K - NOT AT REGULAR SINGLE SAMPLING VERTICAL, FROM LEFT BANK
X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)				SAMPLED CONCENTRATION MINIMUM (mg/L)				SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)			SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	HISTORICAL STANDARD ERROR OF MEAN %
1974	--------PP---	MANUAL	18	SEP	24		17	AUG	14		---	---		---	---	---	---
1975	---P--PPP---	MANUAL	388	APR	28	*	33	SEP	30		---	---		---	---	---	---
1976	---PPPPPP---	MANUAL	152	APR	13		10	MAY	18		---	---		---	---	---	---
1977	---PPPPPPP--	MANUAL	109	APR	18		11	SEP	08		---	---		---	---	---	---
1978	---P-PPPPPP-	MANUAL	295	JUN	03		5	AUG	21		---	---		---	---	---	---
1979	-----PPPPPP--	MANUAL	274	MAY	01		7	OCT	30		---	---		---	---	---	---
1980	---P-PPPP---	MANUAL	102	APR	23		11	JUL	18		---	---		---	---	---	---
1981	---PPPP-P---	MANUAL	43	APR	23		3	SEP	10	*	---	---		---	---	---	---
1982	-----P--PP---	MANUAL	41	MAY	11		6	SEP	22		---	---		---	---	---	---
1983	---P---P-P---	MANUAL	42	APR	18		5	OCT	25		---	---		---	---	---	---
1984	---PP--P-P---	MANUAL	83	APR	7		5	OCT	2		---	---		---	---	---	---
1985	---P--P--P---	MANUAL	82	APR	24		4	JUL	30		---	---		---	---	---	---
1986	-----P-------	MANUAL	43	JUN	3		43	JUN	3		---	---		---	---	---	---
1987	-----PP-P----	MANUAL	36	MAY	4		6	AUG	17		---	---		---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

ALBERTA

BELLY RIVER NEAR GLENWOOD - STATION NO. 05AD041

LOCATION: LAT 49 21 08 N LONG 113 28 49 W
DRAINAGE AREA: 857 km²
TYPE OF FLOW: REGULATED SINCE 1935
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAR 24	15:35	1.0	3.27	5.5 X	DH48	10	181														
APR 05	15:30	7.0	1.85	8.0 X	DH48	88	241														
APR 26	15:10	15.0	1.08	5.5 X	DH48	5	183														
MAY 26	15:50	10.0	1.40	5.5 X	DH48	4	139														
JUN 23	14:45	17.0	1.14	5.0 X	DH48	3	151														
JUL 30	15:50	24.0	2.57	12.0 X	DH48	17	148														
AUG 26	14:50	15.0	5.11	7.5 X	DH48	89	150														
SEP 28	15:00	17.0	1.88	5.0 X	DIP	3	152														
NOV 03	14:10	7.0	2.00	5.5 X	DIP	2	215														

NOTE : SINGLE VERTICAL IS UNDETERMINED FOR 1987

VERTICAL SYMBOL(S): X - NOT AT REGULAR SINGLE SAMPLING VERTICAL, FROM LEFT BANK
x - NOT AT REGULAR SINGLE SAMPLE VERTICAL

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1985	----PPPPPP--	MANUAL	88 OCT 28		3 SEP 24		---	---	---	---	---	---
1986	--PPPPPP--P-	MANUAL	414 MAY 27	*	4 AUG 26		---	---	---	---	---	---
1987	--PPPPPPP-P-	MANUAL	88 APR 6		3 NOV 3	*	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

BIRCH RIVER BELOW ALICE CREEK - STATION NO. 07KE001

LOCATION: LAT 68 18 20 N LONG 113 04 05 W
DRAINAGE AREA: 9 860 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAY 01	09:35	8.0	174	MID	DH59	755	184	22	27	43	50	67	77	88	99	100			23	50	27
JUN 18	12:00	17.0	103	MID	DH59	169	240														
AUG 28	11:00	15.0	53.2	MID	DH59	248	381	30	43	59	74	86	93	98	100				8	49	43
NOV 04	10:40	2.0	41.8	MID	D49	57	261														

NOTE : SINGLE VERTICAL IS UNDETERMINED FOR 1987

BIRCH RIVER BELOW ALICE CREEK - STATION NO. 07KE001

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY MEAN LOAD (TONNES)	SUMMARY HISTORICAL MEAN LOAD (TONNES)	SUMMARY STANDARD ERROR OF MEAN %
1970	····PP·····	MANUAL	136	MAY 14	28	JUN 27	···	···	···	···	···	···
1971	····P·PPP···	MANUAL	45	SEP 14	32	AUG 02	···	···	···	···	···	···
1972	···PPPP····	MANUAL	131	MAY 25	*	AUG 28	···	···	···	···	···	···
1973	····P·P··P··	MANUAL	1 430	JUL 12	37	OCT 15	···	···	···	···	···	···
1974	·····PPP·P··	MANUAL	744	AUG 20	48	OCT 04	···	···	···	···	···	···
1975	····PPPPP···	MANUAL	5 320	AUG 26 *	98	JUL 21	···	···	···	···	···	···
1976	··PP·PPP·P·	MANUAL	637	APR 16	13	NOV 03	···	···	···	···	···	···
1977	···PPPPPPP··	MANUAL	385	APR 17	14	SEP 20	···	···	···	···	···	···
1978	···PPPPPP····	MANUAL	1 300	APR 28	20	JUL 26	···	···	···	···	···	···
1979	·····PPPPPP··	MANUAL	835	MAY 19	30	JUL 27	···	···	···	···	···	···
1980	···PPPPPPP··	MANUAL	385	APR 23	12	MAY 23	···	···	···	···	···	···
1981	····P·PP····	MANUAL	61	MAY 27	5	AUG 27 *	···	···	···	···	···	···
1982	····PP·PP····	MANUAL	423	MAY 31	19	JUN 24	···	···	···	···	···	···
1983	···P·P·PP····	MANUAL	488	APR 30	31	SEP 16	···	···	···	···	···	···
1984	····P····P···	MANUAL	180	MAY 25	57	OCT 3	···	···	···	···	···	···
1985	···P·P·P····	MANUAL	1 270	APR 28	5	AUG 31	···	···	···	···	···	···
1986	····PP·P····	MANUAL	1 820	MAY 6	78	AUG 32	···	···	···	···	···	···
1987	····PP·P··P·	MANUAL	765	MAY 1	57	NOV 4	···	···	···	···	···	···

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH

* - EXTREME FOR PERIOD OF RECORD

BOW RIVER AT CALGARY - STATION NO. 05BH004

LOCATION LAT 51 03 00 N LONG 114 03 00 W
DRAINAGE AREA 7 880 km²
TYPE OF FLOW REGULATED SINCE 1913
TYPE OF GAUGE RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP (°C)	INSTANT DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT CONCENT (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.063	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
APR 10	14 50	5.0	52 3	32 0	DH59	7	308														
APR 30	11 30	10.0	88 4	32 0	DH59	7	206														
MAY 26	10 15	11 0	110	32 0	DH59	7	178														
JUN 23	15 00	17 0	142	32 0	DH59	6	132														
JUL 21	15 15	16 0	102	32 0	DH59	5	154														
AUG 13	09 50	13 0	88 4 H	32 0	DH59	4	148														
SEP 10	15 00	15 0	145	32 0	DH59	5	166														
OCT 06	15 10	10 0	48 5	32 0	DH59	4	178														
OCT 28	11 00	5 0	52 7	32 0	DH59	6	195														

NOTE SINGLE VERTICAL LOCATED AT 32 METRES FOR 1987

DISCHARGE SYMBOL(S) H - DAILY MEAN

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : JAN-DEC MEAN LOAD (TONNES)	SUMMARY : JAN-DEC HISTORICAL MEAN LOAD (TONNES)	SUMMARY : JAN-DEC STANDARD ERROR OF MEAN %
1972	···CCCCCCCCC	MANUAL	101	JUN 02	1	NOV 24	3 470	JUN 03	87 200	···	···	···
1973	CCCCCCCCCCC	MANUAL	82	MAY 26	1	AUG 01	1 470	MAY 27	30 800	84.4	84.4	···
1974	CCCCCCCCCCC	MANUAL	105	JUN 28 *	0	FEB 04 *	6 330	JUN 28 *	83 300 *	174	129	34.7
1975	CCCCCCCCCCC	MANUAL	28	JUN 09	1	JAN 03	331	JUN 09	11 300	31.0	88.8	43.2
1976	CCCCCCCCCCC	MANUAL	36	OCT 15	0	SEP 03	888	AUG 07	21 400	58.3	88.8	35.7
1977	CCCCCCCCCCC	MANUAL	18	JUN 10	3	MAR 14	341	JUN 10	12 800	34.8	76.4	34.3
1978	CCCCCCCCCCC	MANUAL	57	JUN 07	3	AUG 09	1 080	JUN 10	30 200	82.7	77.5	27.8
1979	P·PPP·····	MANUAL	30	APR 11	3	JAN 28	···	···	···	···	···	···
1981	····PP·P·P	MANUAL	82	MAY 28	3	OCT 31	3 240	MAY 28	5 830	···	···	···
1982	···P·P·PP·P·	MANUAL	17	APR 26	1	SEP 02	···	···	···	···	···	···
1983	····PPPPP···	MANUAL	11	JUN 01	3	JUL 22	···	···	···	···	···	···
1984	····P·P·P····	MANUAL	11	JUL 3	3	MAY 1	···	···	···	···	···	···
1985	···PPPPPPP··	MANUAL	13	MAY 24	6	APR 12	···	···	···	···	···	···
1986	··PP·PP·PPP·	MANUAL	86	JUN 3	3	OCT 22	···	···	···	···	···	···
1987	···PPPPPPP··	MANUAL	7	APR 10	4	AUG 13	···	···	···	···	···	···

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

ALBERTA

BOYER RIVER NEAR FORT VERMILION - STATION NO. 07JF002

LOCATION: LAT 58 25 42 N LONG 116 15 10 W
DRAINAGE AREA: 8 880 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	PERCENT SILT	PERCENT CLAY
MAY 27	11:50	15.0	12.3	10.5 X	DH59	17	486														
JUN 24	12:50	16.0	5.01	7.0 K	DH48	11	595														
JUL 28	14:40	24.0	0.451	6.0 X	DH48	11	819														
AUG 26	10:20	16.0	2.26	10.0 X	DH48	18	743														
SEP 23	14:35	13.0	0.743	7.0 K	DH48	15	747														
OCT 29	11:45	1.0	5.22	8.0 X	DH48	89	884														

NOTE - SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1987

VERTICAL SYMBOL(S): K - NOT AT REGULAR SINGLE SAMPLING VERTICAL, FROM LEFT BANK
X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)			MINIMUM (mg/L)			SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1974	---------PP--	MANUAL	10	OCT 31		9	SEP 17		---	---	---	---	---	---
1975	---PPP-PPP--	MANUAL	182	MAY 01	*	6	AUG 07		---	---	---	---	---	---
1976	---PPPPPP---	MANUAL	136	APR 21		8	JUN 23		---	---	---	---	---	---
1977	---P-PP-PP--	MANUAL	48	APR 28		4	SEP 03	*	---	---	---	---	---	---
1978	----PPP--P--	MANUAL	45	MAY 05		15	OCT 04		---	---	---	---	---	---
1979	-------PPP-P-	MANUAL	31	JUL 25		4	AUG 18		---	---	---	---	---	---
1980	-----P-------	MANUAL	15	JUN 05		15	JUN 05		---	---	---	---	---	---
1981	----PP-------	MANUAL	13	MAY 27		12	JUN 30		---	---	---	---	---	---
1982	----P--------	MANUAL	95	MAY 04		23	MAY 30		---	---	---	---	---	---
1983	----PP-------	MANUAL	35	MAY 05		11	JUN 02		---	---	---	---	---	---
1984	----PPPPPP--	MANUAL	73	MAY 2		9	AUG 29		---	---	---	---	---	---
1985	----PPPPPP--	MANUAL	30	OCT 30		5	JUL 23		---	---	---	---	---	---
1986	----PPPPPP--	MANUAL	45	MAY 12		5	AUG 26		---	---	---	---	---	---
1987	----PPPPPP--	MANUAL	89	OCT 29		11	JUN 24		---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH

* - EXTREME FOR PERIOD OF RECORD

ALBERTA

CLEARWATER RIVER AT DRAPER - STATION NO. 07CD001

SUSPENDED SEDIMENT FOR 1987

LOCATION: LAT 56 41 07 N LONG 115 15 15 W
DRAINAGE AREA: 30 800 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

TOTAL SUSPENDED SEDIMENT LOAD 157 000 TONNES FOR THE PERIOD APR 22 TO OCT 31

REMARKS:

	APR			MAY			JUN			
DAY	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAY
1	62.6 B			288	168	4 140	155	41	548	1
2	62.7 B			284	159 S	3 900	164	43	609	2
3	64.3 B			276	140 S	3 360	169	47	686	3
4	64.8 B			266	112	2 570	173	48	717	4
5	65.3 B			260	92	2 070	176	59	897	5
6	70.3 B			254	78	1 870	181	75	1 170	6
7	74.3 B			246	80	1 280	188	85	1 390	7
8	78.6 B			240	51	1 060	194	88 S	1 480	8
9	85.2 B			231	48	918	198	89	1 510	9
10	86.5 B			224	44	862	195	89 S	1 500	10
11	91.2 B			217	43	808	191	89	1 470	11
12	95.0 B			212	44	808	185	80	1 280	12
13	101 B			208	50	890	180	72	1 120	13
14	107 B			200	82	1 070	172	68	1 010	14
15	116 B			194	87	1 120	166	84	818	15
16	164 B			188	72	1 170	159	81	836	16
17	185 B			183	75 S	1 190	153	57	753	17
18	195 B			178	80	1 240	148	53	682	18
19	228 B			178	63 S	1 230	144	51	635	19
20	265 B			180	73	1 140	140	47	569	20
21	283 B			180	60 S	933	137	44 S	521	21
22	308	312	8 250	178	55	861	133	42	483	22
23	314	380	8 770	176	54 S	821	127	39	428	23
24	332	374	10 400	174	53	797	124	37 S	386	24
25	332	387	10 200	170	50	734	120	36	383	25
26	332	343	9 640	168	48	703	118	33	336	26
27	320	309	8 540	163	48	676	115	30	298	27
28	314	288 S	7 300	158	43	587	113	28 S	273	28
29	305	215 S	5 890	155	42 S	562	111	28	269	29
30	298	182	4 850	152	41	538	111	28	289	30
31				153	41	542				31
TOTAL	5 374.9		74 340	5 337		40 295	4 640		23 419	TOTAL

	JUL			AUG			SEP			
DAY	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAY
1	108	28 S	261	73.4	28	185	78.7	17	117	1
2	106	28	258	76.2	28 S	171	78.4	17 S	117	2
3	104	28	252	73.7	28	168	78.7	17	116	3
4	101	28	244	73.8	27	172	77.8	18	121	4
5	98.6	28	241	74.8	27	174	77.3	18 S	120	5
6	98.0	28	237	76.6	27	178	78.9	19	126	6
7	96.1	28	232	78.3	27	183	78.1	19	123	7
8	94.1	28	228	79.7	27	188	74.7	20	128	8
9	93.2	28	225	79.6	28	192	76.3	21	137	9
10	90.7	28	219	81.0	28	196	76.2	22	143	10
11	86.6	28	215	85.6	28 S	214	76.9	23	148	11
12	87.0	28	210	87.7	32 S	242	76.8	23 S	148	12
13	86.0	28	208	90.1	28 S	218	76.2	23	148	13
14	84.6	28	205	92.0	25	199	76.0	22	141	14
15	83.0	28	201	94.3	25	204	72.5	22	138	15
16	81.7	28	198	96.7	25	217	72.8	21	132	16
17	82.2	28	198	97.2	26	218	72.4	21	131	17
18	80.8	28	196	96.5	27	226	71.5	21	130	18
19	80.2	27	187	98.1	28 S	232	71.8	20	124	19
20	78.0	27	184	94.0	28	227	72.1	20	126	20
21	77.6	27	181	91.7	29 S	230	72.0	19	118	21
22	76.4	27	178	89.8	30	233	72.3	19	118	22
23	76.7	27	177	88.3	30	228	72.4	19	118	23
24	76.4	27	178	87.6	32	242	71.7	19	116	24
25	74.6	27	174	87.3	33 S	248	71.2	19	117	25
26	73.3	27	171	86.8	31	230	71.1	19	117	26
27	72.9	27	170	86.0	28	184	70.2	19	116	27
28	73.0	28	184	83.4	18	130	70.1	18 S	108	28
29	72.1	28	182	82.3	16 S	114	69.7	17 S	102	29
30	71.8	28	181	80.3	16	111	69.6	16	96.2	30
31	72.4	28	183	80.3	17	118				31
TOTAL	2 839.0		8 276	2 839.0		5 049	2 212.3		3 748.2	TOTAL

B - ICE CONDITIONS

S - SAMPLE(S) COLLECTED THIS DAY

ALBERTA

CLEARWATER RIVER AT DRAPER - STATION NO. 07CD001

SUSPENDED SEDIMENT FOR 1987

DAY	OCT DAILY DISCHARGE (m^3/s)	OCT MEAN CONCENTRATION (mg/L)	OCT DAILY LOAD (t)	NOV DAILY DISCHARGE (m^3/s)	NOV MEAN CONCENTRATION (mg/L)	NOV DAILY LOAD (t)	DEC DAILY DISCHARGE (m^3/s)	DEC MEAN CONCENTRATION (mg/L)	DEC DAILY LOAD (t)	DAY
1	89.2	15	88.7							1
2	89.0	15	89.4							2
3	89.3	14 S	83.8							3
4	86.9	14	83.3							4
5	87.9	14	82.1							5
6	87.6	15	83.5							6
7	88.5	17	101							7
8	71.0	19	117							8
9	70.7	23	140							9
10	71.1	26	160							10
11	70.1	29 S	176							11
12	70.7	32	195							12
13	71.3	32	197							13
14	71.7	31	192							14
15	72.8	27	170							15
16	74.0	23	147							16
17	74.2	20	128							17
18	74.1	16	102							18
19	74.6	13	83.8							19
20	73.3	12	76.0							20
21	73.8	11	70.2							21
22	73.6	10	63.5							22
23	72.8	10	63.0							23
24	72.3	10	62.5							24
25	72.0	10	62.2							25
26	71.3	10	61.6							26
27	70.5	10	60.9							27
28	70.5	10	60.9							28
29	71.0	10	61.3							29
30	71.5	10	61.8							30
31	72.0	10	62.2							31
TOTAL	2 211.6		3 196.7							TOTAL

S - SAMPLE(S) COLLECTED THIS DAY

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m^3/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
APR 28	19:00	7.0	312	MID	DH59	256	127	7	8	15	21	31	41	81	95	100			59	33	8
APR 29	20:00	8.0	302	MID	DH59	187															
MAY 02	20:00	11.0	283	MID	DH59	182															
MAY 03	15:00	13.0	260	MID	DH59	138															
MAY 17	16:30	13.0	182	MID	DH59	70															
MAY 18	15:00	12.0	181	MID	DH59	82	133														
MAY 21	15:00	13.0	180	MID	DH59	88															
MAY 23	15:00	14.0	178	MID	DH59	302															
MAY 29	20:00	16.0	164	MID	DH59	47															
JUN 05	15:00	17.0	155	MID	DH59	89	147														
JUN 10	15:00	20.0	155	MID	DH59	90															
JUN 21	13:00	22.0	137	MID	DH59	44	161														
JUN 24	13:00	21.0	124	MID	DH59	167															
JUN 26	14:00	21.0	113	MID	DH59	28	181														
JUL 01	21:00	20.0	107	MID	DH59	294	188														
AUG 02	08:00	20.0	78.4	MID	DH59	25	212														
AUG 11	15:00	23.0	66.3	MID	DH59	29	188														
AUG 12	15:00	22.0	68.4	MID	DH59	32															
AUG 13	20:00	22.0	80.8	MID	DH59	28	191														
AUG 18	19:30	21.0	85.9	MID	DH59	28															
AUG 21	15:00	21.0	91.5	MID	DH59	92															
AUG 26	17:30	21.0	87.5	MID	DH59	33	189														
AUG 28	15:30	22.0	82.4	MID	DH59	18															
SEP 02	20:30	20.0	78.4	MID	DH59	17	174														
SEP 05	14:30	19.0	76.8	MID	DH59	16															
SEP 12	15:12	19.0	74.3	MID	DH59	23	188														
SEP 28	19:00	15.0	70.0	MID	DH59	19	190														
SEP 28	15:00	15.0	69.5	MID	DH59	35															
OCT 03	12:00	15.0	69.3	MID	DH59	14	188														
OCT 11	14:00	13.0	68.6	MID	DH59	30	220														

NOTE : SINGLE VERTICAL IS UNDETERMINED FOR 1987

ALBERTA

CLEARWATER RIVER AT DRAPER - STATION NO. 07CD001

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MAR-OCT MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1967	----PP-PPP-P	MANUAL	330	MAY 12	6	DEC 12	---	---	---	---	---	---
1968	PPPPPPPPPP-P	MANUAL	389	JUL 04	3	MAR 21 *	---	---	---	---	---	---
1969	CCCCCCCCCCCC	MANUAL	2 030	APR 21	3	AUG 28	78 800	APR 21	810 000	2 470	2 470	---
1970	CCCCCCCCCCCC	MANUAL	2 380	JUL 02 *	5	JAN 28	137 000	JUL 02 *	1 830 000 *	6 580	4 530	45.4
1971	CCCCCCCCCCCC	MANUAL	1 580	APR 24	6	JAN 29	88 000	APR 24	687 000	2 780	3 940	33.6
1972	CCCCCCCCCCCC	MANUAL	941	MAY 04	5	AUG 21	47 200	MAY 04	485 000	1 980	3 480	30.7
1973	CCCCCCCCC---	MANUAL	1 710	AUG 07	5	FEB 26	40 400	AUG 07	890 000	---	---	---
1974	----CCCCCC--	MANUAL	788	MAY 11	80	SEP 11	78 500	MAY 01	1 240 000	---	---	---
1975	P-P-PCCCCC--	MANUAL	1 020	JUL 17	7	MAR 18	35 500	JUL 18	1 020 000	---	---	---
1976	PPCCCCCCCC--	MANUAL	1 280	AUG 28	10	MAR 03	35 200	AUG 28	717 000	2 820	3 340	24.7
1977	---CCCCCCC--	MANUAL	852	MAY 20	15	OCT 28	17 600	MAY 31	465 000	---	---	---
1978	CCCCCCCCCCCC	MANUAL	864	APR 30	5	DEC 04	17 700	APR 30	527 000	2 120	3 140	22.4
1979	CCCCCCCCCC--	MANUAL	1 000	MAY 17	7	JAN 08	46 800	MAY 17	873 000	3 550	3 200	18.7
1980	---CCCCCCC--	MANUAL	1 050	AUG 05	11	JUL 29	25 300	AUG 18	553 000	---	---	---
1981	----PCCCC---	MANUAL	118	AUG 08	7	SEP 01	1 320	JUL 17	34 500	---	---	---
1982	-----CCCC---	MANUAL	47	AUG 15	5	JUL 20	711	JUN 01	30 800	---	---	---
1983	---PPCCCP---	MANUAL	123	APR 28	18	JUN 22	2 010	APR 28	82 500	---	---	---
1985	----CCCCC---	MANUAL	1 150	MAY 6	28	JUL 3	52 200	MAY 05	505 000	---	---	---
1986	----CCCCCC--	MANUAL	2 010	JUN 21	13	OCT 13	18 500	JUL 20	218 000	---	---	---
1987	---PCCCCCC--	MANUAL	302	MAY 23	14	OCT 3	10 400	APR 24	167 000	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

CROWSNEST RIVER AT FRANK - STATION NO. 05AA008

LOCATION: LAT 49 35 49 N LONG 114 24 33 W
DRAINAGE AREA: 404 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAR 25	08:10	2.0	1.75	7.0 X	DH48	3	278														
APR 07	08:30	3.0	4.00	7.0 X	DH48	18	221														
MAY 08	08:05	5.0	12.1	8.0 X	DH48	17	197														
MAY 27	15:00	8.0	8.77	10.0 X	DH48	8	208														
JUN 23	08:30	10.0	5.80	8.0 X	DH48	7	207														
JUL 29	13:10	20.0	4.81	9.0 X	DH48	4	209														
AUG 27	14:05	15.0	3.38	7.0 X	DH48	2	221														
SEP 29	13:35	10.0	1.88	7.0 X	DH48	2	256														
NOV 03	14:05	5.0	1.42	4.0 X	DH48	5	273														

NOTE : SINGLE VERTICAL IS UNDETERMINED FOR 1987

VERTICAL SYMBOL(S): X - NOT AT REGULAR SINGLE SAMPLING VERTICAL, FROM LEFT BANK
X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MAR-OCT MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1973	----PP------	MANUAL	502	MAY 31 *	42	JUN 09	---	---	---	---	---	---
1974	------P-PP--	MANUAL	6	JUL 23	3	OCT 02	---	---	---	---	---	---
1975	----PPPPPPP-	MANUAL	584	JUN 20	2	SEP 02	---	---	---	---	---	---
1976	---CCCCCCP-	MANUAL	107	AUG 08	2	OCT 05	---	---	---	---	---	---
1977	--CCCCCCCCC	MANUAL	24	JUN 09	4	APR 13	271	AUG 08	3 760	---	---	---
1978	CCCCCCCCCCC	MANUAL	74	JUN 05	2	OCT 31	13.7	JUN 08	714	---	---	---
1979	CCCCCCCCC--	MANUAL	183	MAY 25	0	FEB 13 *	157	JUN 06	2 610	2.75	2.75	---
1980	--CCCCCCC--	MANUAL	88	APR 30	4	AUG 17	526	MAY 27 *	3 620 *	10.4	8.58	58.1
1981	----PP-PPP--	MANUAL	81	MAY 01	5	SEP 03				15.5	9.55	36.8
1982	---PPPP-P---	MANUAL	28	APR 15	2	SEP 18	161	APR 30	2 080			
1983	--PPPPP-P-P-	MANUAL	88	MAR 30	3	SEP 01	---	---	---	8.80	8.29	28.3
1984	---PPPPPP---	MANUAL	35	APR 4	4	AUG 31	---	---	---	---	---	---
1985	---PPPPPPP--	MANUAL	24	APR 28	3	AUG 28	---	---	---	---	---	---
1986	--PPPP-PP-P-	MANUAL	285	MAY 26	3	MAR 26	---	---	---	---	---	---
1987	--PPPPPPP-P-	MANUAL	16	APR 7	2	AUG 27	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

ALBERTA

EAST PRAIRIE RIVER NEAR ENILDA - STATION NO. 07BF001

LOCATION: LAT 55 25 00 N LONG 118 20 20 W
DRAINAGE AREA: 1 460 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: MANUAL

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
APR 22	10:45		12.8	30.0 X	DH59	900 C	133														
MAY 25	09:50	10.0	6.86	29.0 K	DH48	101	189														
JUN 22	09:50	12.0	3.48	33.0 K	DH48	29	217														
AUG 07	11:40	20.0	8.20	20.0 X	DH48	234	147	19	38	53	62	69	76	91	99	100			24	38	38
AUG 25	11:00	12.0	8.18	31.0 X	DH48	126	186														
SEP 28	10:55	11.0	2.50	31.0 X	DH48	20	217														
OCT 26	10:10	1.5	1.34	9.0 X	DH48	13	243														

NOTE : SINGLE VERTICAL LOCATED AT 31 METRES FOR 1987

CONCENTRATION SYMBOL(S): C - COARSE MATERIAL PRESENT

VERTICAL SYMBOL(S): K - NOT AT REGULAR SINGLE SAMPLING VERTICAL, FROM LEFT BANK
X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1974	---PP--PPP--	MANUAL	3 500	MAY 08	17	OCT 28	---	---	---	---	---	---
1975	---PPPPPPP--	MANUAL	5 730	JUL 18	32	SEP 28	---	---	---	---	---	---
1976	---PPPP-PP--	MANUAL	9 860	JUN 27	46	OCT 07	---	---	---	---	---	---
1977	---PPPPPPP--	MANUAL	3 890	APR 13	27	AUG 25	---	---	---	---	---	---
1978	---------PP--	MANUAL	524	OCT 23	373	SEP 27	---	---	---	---	---	---
1979	---PPPPPP---	MANUAL	9 260	JUL 03	31	SEP 18	---	---	---	---	---	---
1980	----PPPPPP--	MANUAL	635	JUN 03	38	JUL 28	---	---	---	---	---	---
1981	----P-P-PP--	MANUAL	178	MAY 27	21	JUL 07	---	---	---	---	---	---
1982	---PPPP-PP--	MANUAL	10 100	MAY 04	26	OCT 04	---	---	---	---	---	---
1983	---PPPPP-P--	MANUAL	12 300	JUN 26 *	55	OCT 24	---	---	---	---	---	---
1984	---PPPPPP---	MANUAL	6 040	JUN 9	33	SEP 24	---	---	---	---	---	---
1985	---PPPPPP---	MANUAL	4 130	MAY 6	13	AUG 29 *	---	---	---	---	---	---
1986	---PPPPPPP--	MANUAL	6 630	JUL 16	24	SEP 22	---	---	---	---	---	---
1987	---PPP-PPP--	MANUAL	900	APR 22	13	OCT 26	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

ELBOW RIVER AT BRAGG CREEK - STATION NO. 05BJ004

LOCATION: LAT 50 56 53 N LONG 114 34 10 W
DRAINAGE AREA: 791 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
JUN 04	13:10	11.5	8.62	11.0 X	DH48	1	239														
JUN 22	14:55	14.5	8.73	12.0 X	DH48	2	223														
JUL 23	14:50	12.5	25.7	23.0 K	DH48	62	167														
AUG 27	14:00	13.5	8.40	10.0 X	DH48	2	224														
SEP 29	11:00	7.0	5.83	13.8 X	DH48	2	228														
NOV 02	14:50	7.0	4.47	10.2 X	DH48	2	246														

NOTE : SINGLE VERTICAL IS UNDETERMINED FOR 1987

VERTICAL SYMBOL(S): K - NOT AT REGULAR SINGLE SAMPLING VERTICAL, FROM LEFT BANK
X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

ELBOW RIVER AT BRAGG CREEK - STATION NO. 05BJ004

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MAR-OCT MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1968	-----C------	MANUAL	347 JUN 08		10 JUN 21		1 320 JUN 08		4 890	---	---	---
1969	-----CCCCCC--	MANUAL	1 210 JUN 25	*	0 SEP 05	*	11 700 JUN 29	*	---	---	---	---
1970	---PPP------	MANUAL	1 200 JUN 16		2 APR 27		--- ---		---	---	---	---
1971	--CCCCCCCCCC	MANUAL	859 JUN 05		0 MAR 02		8 380 JUN 05		---	72.8	72.8	---
1972	CCCCCCCCCC--	MANUAL	455 MAY 31		0 JAN 08		1 890 MAY 31		13 800	56.6	64.6	12.4
1973	--CCCCCCCCP-	MANUAL	327 MAY 26		0 MAR 02		1 220 MAY 26		7 360	30.0	53.1	23.4
1974	--CCCCCCCCP-	MANUAL	1 020 JUN 17		1 APR 05		5 820 JUN 17		34 300	* 140	74.8	31.3
1975	--CCCCCCCC--	MANUAL	371 JUN 20		0 MAY 13		1 580 JUN 20		8 050	24.7	84.8	32.0
1976	----PPPPP---	MANUAL	5 MAY 03		1 JUN 03		--- ---		---	---	---	---
1977	---PP-PPP---	MANUAL	7 APR 05		1 MAY 04		--- ---		---	---	---	---
1978	----PP-PP---	MANUAL	440 JUN 05		1 AUG 30		--- ---		---	---	---	---
1979	---PP-PPP---	MANUAL	13 MAY 29		0 JUL 25		--- ---		---	---	---	---
1980	---PP-PP-P--	MANUAL	20 MAY 30		2 JUL 30		--- ---		---	---	---	---
1981	-----PPPP----	MANUAL	840 MAY 26		2 AUG 26		--- ---		---	---	---	---
1982	-----PPPPP---	MANUAL	21 JUN 07		1 SEP 28		--- ---		---	---	---	---
1983	----PPPPP----	MANUAL	84 JUN 24		3 AUG 17		--- ---		---	---	---	---
1984	-----PPPP----	MANUAL	89 JUN 11		0 MAY 3		--- ---		---	---	---	---
1985	-----PPPPPP--	MANUAL	348 SEP 13		2 OCT 30		--- ---		---	---	---	---
1986	--PPPPPPP-P-	MANUAL	38 MAY 22		1 MAR 19		--- ---		---	---	---	---
1987	-----PPPP-P-	MANUAL	82 JUL 22		1 JUN 4		--- ---		---	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH

P - PARTIAL MONTH

* - EXTREME FOR PERIOD OF RECORD

FIREBAG RIVER NEAR THE MOUTH - STATION NO. 07DC001

LOCATION: LAT 57 38 30 N LONG 111 10 30 W
DRAINAGE AREA: 5 880 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL	TYPE OF SAMPLER	INSTANT. DISSOLVED CONCENT. (mg/L)	SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAY 01	14:15	10.0	118	10RB	DIP	44															
JUN 18	17:40	17.0	38.2	10RB	DIP	8															
AUG 28	18:15	17.0	17.8	10RB	DH48	4	169														

NOTE . SINGLE VERTICAL IS UNDETERMINED FOR 1987

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1976	-----PP-P-P-	MANUAL	12 JUN 13		3 NOV 03		--- ---		---	---	---	---
1977	---PPPPPPP--	MANUAL	71 APR 27		4 SEP 22		--- ---		---	---	---	---
1978	---P-PPP----	MANUAL	313 APR 28	*	7 JUL 05		--- ---		---	---	---	---
1979	----PPPPPP--	MANUAL	118 MAY 22		5 AUG 23		--- ---		---	---	---	---
1980	---PPPPPPP--	MANUAL	49 APR 23		4 OCT 28		--- ---		---	---	---	---
1981	----P-PP----	MANUAL	32 JUL 15		3 AUG 30	*	--- ---		---	---	---	---
1982	----PP-PP---	MANUAL	45 MAY 18		5 JUN 23		--- ---		---	---	---	---
1983	---P-P-PP---	MANUAL	84 APR 26		2 SEP 15		--- ---		---	---	---	---
1984	----P--PPP--	MANUAL	35 AUG 11		4 OCT 3		--- ---		---	---	---	---
1985	---P-P-P----	MANUAL	241 APR 28		2 AUG 21		--- ---		---	---	---	---
1986	----P--P----	MANUAL	55 MAY 8		3 AUG 22		--- ---		---	---	---	---
1987	----PP-P----	MANUAL	44 MAY 1		2 AUG 26		--- ---		---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH

* - EXTREME FOR PERIOD OF RECORD

ALBERTA

FREEMAN RIVER NEAR FORT ASSINIBOINE - STATION NO. 07AH001

LOCATION: LAT 54 21 52 N LONG 114 54 13 W
DRAINAGE AREA: 1 880 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)		TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAY 20	18:30	10.0	7.08	MID		DH48	14	139														
JUN 17	12:30	15.0	8.40	MID		DH48	13	126														
JUL 14	10:45	15.0	2.87	MID		DH48	8	176														
AUG 13	14:30	12.0	15.6	11.5	X	DH48	85	133														
SEP 09	17:50E	12.0	7.50	10.0	X	DH48	7	130														
OCT 05	14:40	7.0	7.09	MID		DH48	10	168														

NOTE : SINGLE VERTICAL IS UNDETERMINED FOR 1987

TIME SYMBOL: E - ESTIMATED
VERTICAL SYMBOL(S): X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)			MINIMUM (mg/L)			SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1974	------P--P--	MANUAL	1 200	JUL 15		6	OCT 29		---	---	---	---	---	---
1975	---PP-PPP---	MANUAL	781	APR 23		5	AUG 19		---	---	---	---	---	---
1976	---PPPPPP---	MANUAL	297	APR 21		8	JUN 23		---	---	---	---	---	---
1977	---PPP-PP---	MANUAL	455	APR 18		5	AUG 23		---	---	---	---	---	---
1978	---PPPPPP-P-	MANUAL	853	JUN 18		10	AUG 30		---	---	---	---	---	---
1979	----PPPPPP--	MANUAL	2 880	JUN 15	*	7	SEP 20		---	---	---	---	---	---
1980	---PPPPPPP--	MANUAL	1 110	APR 16		8	OCT 15		---	---	---	---	---	---
1981	---PPPPPPP--	MANUAL	785	APR 23		3	SEP 09		---	---	---	---	---	---
1982	------PP-P-P-	MANUAL	114	JUL 08		6	JUN 24		---	---	---	---	---	---
1983	------PPP---	MANUAL	589	JUL 05		7	AUG 30		---	---	---	---	---	---
1984	----PPP-P---	MANUAL	2 340	JUN 8		7	SEP 5		---	---	---	---	---	---
1985	----PPPPPP--	MANUAL	127	MAY 29		8	JUN 19		---	---	---	---	---	---
1986	----PPPP--P-	MANUAL	641	MAY 7		2	AUG 26	*	---	---	---	---	---	---
1987	----PPPPPP--	MANUAL	85	AUG 13		7	SEP 9		---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

HARTLEY CREEK NEAR FORT MACKAY - STATION NO. 07DA009

LOCATION: LAT 57 15 34 N LONG 111 27 53 W
DRAINAGE AREA: 388 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)		TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAY 02	16:40	10.0	8.58	---	X	DIP	28															
JUN 19	09:00	16.0	2.70	MID	X	DH48	9	201														
AUG 26	10:00	14.0	0.103	10LB	X	DH48	11	332														

NOTE : SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1987

VERTICAL SYMBOL(S): X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

MARTLEY CREEK NEAR FORT MACKAY - STATION NO. 07DA009

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1976	---PP-PPP-P-	MANUAL	58	APR 15	2	NOV 02	---	---	---	---	---	---
1977	---PPPPPPP--	MANUAL	39	APR 21	2	SEP 22	---	---	---	---	---	---
1978	---PPPPPP----	MANUAL	106	AUG 21 *	3	JUN 26	---	---	---	---	---	---
1979	---PPPPPPP--	MANUAL	40	MAY 03	8	JUN 28	---	---	---	---	---	---
									---	---	---	---
1980	---PPPPPPP--	MANUAL	84	SEP 18	5	MAY 25	---	---	---	---	---	---
1981	-----P-PP-----	MANUAL	12	AUG 28	4	MAY 28	---	---	---	---	---	---
1982	-----PP-P-----	MANUAL	19	MAY 19	1	AUG 03 *	---	---	---	---	---	---
1983	---P-P-PP----	MANUAL	7	APR 27	2	AUG 05	---	---	---	---	---	---
1984	-----P--PP----	MANUAL	8	SEP 21	4	AUG 11	---	---	---	---	---	---
									---	---	---	---
1985	---P-P-P-----	MANUAL	89	APR 30	8	JUN 15	---	---	---	---	---	---
1986	-----PP-P-----	MANUAL	13	MAY 13	2	AUG 25	---	---	---	---	---	---
1987	-----PP-P-----	MANUAL	28	MAY 2	8	JUN 19	---	---	---	---	---	---
									---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH

* - EXTREME FOR PERIOD OF RECORD

HIGHWOOD RIVER NEAR THE MOUTH - STATION NO. 05BL024

LOCATION: LAT 50 47 00 N LONG 113 48 13 W
DRAINAGE AREA: 3 990 km²
TYPE OF FLOW: REGULATED SINCE 1910
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE VERTICAL SAMPLING (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	PERCENT SILT	PERCENT CLAY
MAY 04	15:40	12.0	36.2	42.0 X	DH59	44	186														
JUN 03	12:45	11.0	15.6	1.0 X	DIP	8	197														
JUL 06	13:30	14.0	12.7	23.0 X	DH48	15	186														
JUL 22	13:50	15.0	42.6	44.0 X	DH59	84	185														
AUG 18	14:20	15.0	28.0	32.0 X	DH48	10	186														
SEP 09	13:40	18.0	8.78	31.0 X	DH48	2	213														
SEP 30	13:00	11.0	6.14	38.0 X	DH48	3	230														
OCT 15	12:20	3.0	4.80	5.0 X	DIP	2															

NOTE : SINGLE VERTICAL IS UNDETERMINED FOR 1987

VERTICAL SYMBOL(S): X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MAR-OCT MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1970	----CCCC-----	MANUAL	5 870	JUN 14 *	0	AUG 28 *	254 000	JUN 14 *	380 000 *	---	---	---
1971	----------CCC	MANUAL	13	OCT 28	2	OCT 13	5.78	OCT 28	193	---	---	---
1972	CCCCCCCCCCCC	MANUAL	1 480	JUN 01	3	FEB 21	28 200	JUN 01	240 000	980	880	---
1973	CCCCCCCCCCCC	MANUAL	1 310	MAY 28	0	JAN 02	18 300	MAY 27	78 200	323	852	80.4
1974	CCCCCCCCCCC-	MANUAL	1 810	APR 30	0	SEP 04	25 800	JUN 17	321 000	1 310	871	33.3
1975	CCCCCCCCCCCC	MANUAL	3 010	JUN 20	0	SEP 29	75 800	JUN 20	217 000	687	875	23.4
1976	CCCCCCCCCCCC	MANUAL	327	MAY 11	0	DEC 14	7 810	AUG 08	30 400	124	725	30.2
1977	CCCCCCCCCCCC	MANUAL	700	APR 05	1	JUN 29	1 810	APR 05	5 580	22.3	808	38.1
1978	CCCCCCCCCCCC	MANUAL	1 020	JUN 05	2	SEP 24	13 400	JUN 05	102 000	415	880	31.8
1979	CCCCCCCCCCP-	MANUAL	636	MAY 24	0	JUL 13	7 880	MAY 27	48 100	200	833	31.0
1980	--CCCCCCCCP-	MANUAL	1 380	JUN 03	4	NOV 05	15 300	JUN 03	103 000	421	830	28.1
1981	--PPPP-PPP--	MANUAL	1 340	MAY 21	3	SEP 28	---	---	---	---	---	---
1982	---PPPPPP----	MANUAL	170	JUN 14	3	JUL 28	---	---	---	---	---	---
1983	---PPPPP-----	MANUAL	135	MAY 25	2	AUG 30	---	---	---	---	---	---
1984	-----PP-PP----	MANUAL	37	MAY 30	3	MAY 2	---	---	---	---	---	---
									---	---	---	---
1985	-----PPPPPP--	MANUAL	83	MAY 24	3	OCT 28	---	---	---	---	---	---
1986	--P-PPPPP-P-	MANUAL	1 010	MAY 29	2	AUG 26	---	---	---	---	---	---
1987	-----PPPPPP--	MANUAL	84	JUL 22	2	SEP 9	---	---	---	---	---	---
									---	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH

P - PARTIAL MONTH

* - EXTREME FOR PERIOD OF RECORD

ALBERTA

JOSLYN CREEK NEAR FORT MACKAY - STATION NO. 07DA015

LOCATION: LAT 57 16 27 N LONG 111 44 30 W
DRAINAGE AREA: 257 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)		TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAY 02	12:20	11.0	2.28	10LB	X	DIP	598															
JUN 17	13:40	16.0	0.467	MID	X	DH48	111	311														

NOTE : SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1987

VERTICAL SYMBOL(S): X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)				MINIMUM (mg/L)			SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1976	---PP-PPP-P-	MANUAL	1 100	APR	15		37	NOV	04	---	---	---	---	---	---
1977	---PPPPPPP--	MANUAL	142	MAY	04		11	SEP	18	---	---	---	---	---	---
1978	---PPPPPP---	MANUAL	2 360	MAY	01		13	AUG	22	---	---	---	---	---	---
1979	---PPPPPPP--	MANUAL	644	MAY	30		19	OCT	17	---	---	---	---	---	---
1980	---PPPPPPP--	MANUAL	118	APR	24		6	JUN	24	* ---	---	---	---	---	---
1981	----P-PP----	MANUAL	254	MAY	28		8	AUG	28	---	---	---	---	---	---
1982	------P-PP---	MANUAL	33	JUN	24		17	AUG	03	---	---	---	---	---	---
1983	---P-P-PP---	MANUAL	2 040	APR	28		17	SEP	14	---	---	---	---	---	---
1984	----P---PP---	MANUAL	154	MAY	22		48	SEP	22	---	---	---	---	---	---
1985	---P-P-P----	MANUAL	2 800	APR	28	*	23	AUG	20	---	---	---	---	---	---
1986	----PP-P----	MANUAL	2 610	MAY	7		39	AUG	23	---	---	---	---	---	---
1987	----PP------	MANUAL	598	MAY	2		111	JUN	17	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

KEG RIVER AT HIGHWAY NO. 35 - STATION NO. 07HF002

LOCATION: LAT 57 44 40 N LONG 117 37 20 W
DRAINAGE AREA: 867 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)		TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAY 08	10:00	10.0	5.27	5.0	X	DH48	413	196	37	43	70	80	94	98	99	100				4	83	43
MAY 28	11:30	15.0	1.88	5.4	K	DH48	62															
JUN 02	16:00	13.0	20.6	18.0	X	DH59	2310	281	17	22	37	64	78	88	100					4	74	22
JUN 03	15:30	13.0	28.1	18.0	X	DH59	1880	197	21	37	55	68	84	98	98	100				4	59	37
JUN 09	13:10	15.0	28.8	17.5	X	DH59	1710	208	30	31	48	67	71	84	97	100				18	63	31
JUN 28	10:40	17.0	2.81	8.0	K	DH48	91															
JUL 31	12:15	21.0	0.424	5.0	K	DH48	63	308														
AUG 02	14:45	14.0	75.7	17.0	X	DH59	8140	277	35	52	71	85	95	98	99	100				2	46	52
AUG 02	14:46	14.0	75.7	17.0	X	DH59	8910	267	39	50	71	84	95	98	99	100				2	48	50
AUG 04	10:55	13.0	88.6	17.0	X	DH59	2480	236	50	66	80	88	97	97	99	100				3	31	66
AUG 04	11:00	13.0	88.6	17.0	X	DH59	2640	241	49	68	77	87	96	98	99	100				3	32	66
AUG 24	13:10	14.0	1.36	8.0	K	DH48	82	442														
SEP 25	13:25	11.0	0.388	8.0	K	DH48	52	481														
OCT 30	10:10	12.0	0.317	5.5		DH48	28	517														

NOTE : SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1987

VERTICAL SYMBOL(S): K - NOT AT REGULAR SINGLE SAMPLING VERTICAL, FROM LEFT BANK
X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

KEG RIVER AT HIGHWAY NO. 35 - STATION NO. 07HF002

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)			SAMPLED CONCENTRATION MINIMUM (mg/L)			SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY MEAN LOAD (TONNES)	SUMMARY HISTORICAL MEAN LOAD (TONNES)	SUMMARY STANDARD ERROR OF MEAN %
1974	---------PP--	MANUAL	24	SEP 18		17	OCT 31		---	---	---	---	---	---
1975	---PPPPPPP--	MANUAL	489	JUN 06		18	OCT 30		---	---	---	---	---	---
1976	---PPPPPPP--	MANUAL	1 040	JUN 29		21	SEP 30		---	---	---	---	---	---
1977	----PPP-PP--	MANUAL	809	JUN 13		23	OCT 25		---	---	---	---	---	---
1978	----PPPP-P--	MANUAL	2 050	MAY 23		34	OCT 27		---	---	---	---	---	---
1979	-----PPP--P-	MANUAL	3 650	JUN 28		16	NOV 02	*	---	---	---	---	---	---
1980	---PP-PP----	MANUAL	184	APR 25		27	JUL 03		---	---	---	---	---	---
1981	----PP-P----	MANUAL	738	MAY 04		27	JUN 29		---	---	---	---	---	---
1982	----P--P-P--	MANUAL	481	MAY 06		18	OCT 25		---	---	---	---	---	---
1983	----P-PPP---	MANUAL	111	MAY 06		40	AUG 11		---	---	---	---	---	---
1984	----PPPPPP--	MANUAL	1 270	MAY 22		45	AUG 27		---	---	---	---	---	---
1985	----PPPPP-P-	MANUAL	1 380	MAY 7		23	JUL 22		---	---	---	---	---	---
1986	----PPPPPP--	MANUAL	1 670	JUN 23		38	OCT 27		---	---	---	---	---	---
1987	----PPPPPP--	MANUAL	8 140	AUG 2	*	28	OCT 30		---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH

* - EXTREME FOR PERIOD OF RECORD

ALBERTA

LESSER SLAVE RIVER AT HIGHWAY NO. 2A - STATION NO. 07BK006

SUSPENDED SEDIMENT FOR 1987

LOCATION: LAT 55 17 39 N LONG 114 35 26 W
DRAINAGE AREA: 14 400 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

TOTAL SUSPENDED SEDIMENT LOAD 23 800 TONNES FOR THE PERIOD APR 22 TO OCT 31

REMARKS:

APR				MAY			JUN			
DAY	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAY
1	28.7 B			50.2	54	234	51.8	47	260	1
2	28.7 B			52.3	54	248	58.0	75	441	2
3	30.0 B			54.3	75	368	62.4	56	302	3
4	31.7 B			51.1	70	309	58.2	47	235	4
5	33.4 B			47.0	57 S	272	56.0	41	198	5
6	36.4			53.6	73	332	57.9	43	210	6
7	36.2			53.1	75	344	54.8	47	238	7
8	39.0			51.6	73	327	54.0	40	187	8
9	40.5			52.3	74	334	52.2	36	171	9
10	40.1			53.6	75	348	55.1	37	176	10
11	40.9			52.7	75	341	55.0	38	181	11
12	41.1			53.9	80	373	54.0	37	173	12
13	40.6			56.4	75	373	58.5	48	243	13
14	41.9			51.0	75	346	55.2	44	210	14
15	44.0			54.4	77	382	50.9	36	158	15
16	45.5			52.3	71	321	52.0	35	157	16
17	48.2			50.5	68	288	51.4	31	138	17
18	45.9			51.2	82	374	50.2	28	126	18
19	45.5			53.0	87	361	48.4	28	120	19
20	45.2			53.5	82	361	48.0	32	135	20
21	45.5			52.3	68	317	47.7	34	140	21
22	45.0	44 S	175	50.5	66	301	51.9	37	185	22
23	45.5	44	174	51.5	63	192	54.1	44 S	208	23
24	45.5	43	169	51.5	38	170	58.5	63	320	24
25	46.1	43	171	52.0	33	148	48.5	49	210	25
26	46.2	43	172	51.3	26 S	115	46.5	34	137	26
27	46.5	43	173	50.5	26	114	48.3	24	99.0	27
28	47.4	46	188	48.5	26	111	46.3	23	92.0	28
29	48.5	47	197	51.2	26	126	45.1	23	89.5	29
30	49.5	48	211	51.3	30	133	45.3	23	90.0	30
31				53.4	28	129				31
TOTAL	1 261.3		1 830	1 612.5		7 988	1 801.4		5 697.5	TOTAL

JUL				AUG			SEP			
DAY	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAY
1	44.8	22	85.3	38.5	12	40.0	35.4	21 S	64.2	1
2	42.5	24	88.1	41.0	12	42.5	37.9	23	75.3	2
3	44.3	39	111	40.5	12	42.3	42.0	28	94.3	3
4	43.7	24	90.5	40.1	13 S	45.0	41.2	29	103	4
5	42.9	21	77.5	41.1	13	46.2	40.9	30	106	5
6	42.4	21	76.9	40.0	12 S	41.5	43.5	33	125	6
7	41.5	20	71.9	38.5	11	37.5	40.4	25	87.3	7
8	42.2	20	72.9	39.5	12	41.4	38.3	18 S	59.5	8
9	42.5	19	69.5	38.1	12	38.5	39.7	20	86.5	9
10	42.5	19	70.3	40.1	18	62.4	36.5	22	73.4	10
11	41.5	19	68.3	47.5	27	111	37.2	18	57.5	11
12	40.7	19	65.5	46.5	29 S	122	38.2	15	46.5	12
13	41.2	19	67.5	46.5	24	96.5	38.4	20	85.4	13
14	42.2	22	80.2	43.5	19	71.5	34.9	20 S	60.3	14
15	44.5	25	98.3	41.5	17	61.4	33.0	19	54.2	15
16	45.5	30	118	42.3	17 S	62.1	39.0	23	77.5	16
17	41.3	21	74.9	43.5	16	60.5	36.0	21	65.5	17
18	39.5	18	61.5	42.1	17	61.5	35.5	17 S	52.3	18
19	39.0	17	57.3	41.1	17	60.4	34.5	16	47.5	19
20	39.3	18	61.1	40.0	16	51.5	33.1	14	40.0	20
21	38.5	18	53.2	41.1	14	49.7	33.5	14	40.5	21
22	36.3	14	46.2	38.7	15 S	51.5	33.9	19 S	55.7	22
23	36.4	11	36.5	38.9	15	51.7	34.2	19	56.1	23
24	37.5	11 S	35.5	40.7	15	52.7	31.4	18 S	43.4	24
25	36.5	11	34.5	40.5	14	49.4	32.2	17	47.3	25
26	36.7	11	34.5	38.5	14	47.5	36.3	28	87.5	26
27	37.0	11	35.2	39.5	15 S	50.5	36.3	29 S	91.0	27
28	37.2	11	35.4	40.5	18	65.5	35.3	25	76.2	28
29	36.7	11 S	34.5	41.5	24 S	85.3	34.1	25	73.7	29
30	37.0	11	35.2	38.5	23	75.7	35.5	28	85.5	30
31	37.5	11	36.0	38.9	28	87.4				31
TOTAL	1 267.0		1 865.1	1 278.0		1 889.0	1 100.5		2 065.5	TOTAL

B - ICE CONDITIONS S - SAMPLE(S) COLLECTED THIS DAY

LESSER SLAVE RIVER AT HIGHWAY NO. 2A - STATION NO. 07BK006

SUSPENDED SEDIMENT FOR 1987

DAY	OCT DAILY DISCHARGE (m^3/s)	OCT MEAN CONCENTRATION (mg/L)		OCT DAILY LOAD (t)	NOV DAILY DISCHARGE (m^3/s)	NOV MEAN CONCENTRATION (mg/L)	NOV DAILY LOAD (t)	DEC DAILY DISCHARGE (m^3/s)	DEC MEAN CONCENTRATION (mg/L)	DEC DAILY LOAD (t)	DAY
1	33.5	24	S	69.5							1
2	28.5	24		61.2							2
3	32.5	29		81.4							3
4	37.3	33		106							4
5	34.5	28		83.5							5
6	31.6	35	S	88.3							
7	29.3	45		114							6
8	36.2	60		188							7
9	29.4	55		140							8
10	28.1	52		126							9
											10
11	28.0	53	S	128							
12	30.3	55		144							11
13	38.4	61		202							12
14	26.7	28		69.4							13
15	27.1	22	S	51.5							14
											15
16	28.9	35		87.4							
17	34.0	57		167							16
18	29.8	50	S	128							17
19	26.1	27		60.9							18
20	20.1	19		33.0							19
											20
21	27.8	20		48.0							
22	26.0	15		33.7							21
23	20.1	13	S	22.6							22
24	18.8	18		30.8							23
25	26.8	21		48.6							24
											25
26	32.4	26		72.8							
27	26.6	33	S	73.6							26
28	21.8	34		64.3							27
29	21.8	34	S	64.0							28
30	19.3	33		55.0							29
31	18.3	34		53.8							30
											31
TOTAL	875.1			2 888.3							TOTAL

S - SAMPLE(S) COLLECTED THIS DAY

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP (°C)	INSTANT DISCHARGE (m^3/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
APR 22	15:00	4.5	46.3	20.0	DH59	1	118														
MAY 05	18:20	4.5	50.1	20.0	DH59	73	108														
MAY 05	18:30	4.5	50.2	20.0	DH59	71															
MAY 28	15:40	13.5	51.2	20.0	DH59	23	127														
JUN 23	14:45	15.0	64.0	20.0	DH59	42	135														
JUL 24	18:00		37.6	22.0	DH59	11	123														
JUL 29	18:30		38.3	22.0	DH59	11	124														
AUG 04	18:30		40.0	22.0	DH59	13															
AUG 08	18:30		40.0	22.0	DH59	12	127														
AUG 12	13:30		48.1	22.0	DH59	28	124														
AUG 18	18:00		42.7	22.0	DH59	17	128														
AUG 22	15:00		38.4	22.0	DH59	15	134														
AUG 27	13:35	17.0	38.3	22.0	DH59	14	130														
AUG 28	13:00	15.0	41.5	22.0	DH59	26															
SEP 01	18:30	15.5	33.4	22.0	DH59	20	138														
SEP 08	11:00	15.0	36.2	22.0	DH59	18	128														
SEP 14	16:00	14.0	33.5	22.0	DH59	18															
SEP 18	16:10	13.0	35.6	22.0	DH59	17	145														
SEP 22	15:30	14.0	34.0	22.0	DH59	21															
SEP 24	19:00	13.0	29.7	22.0	DH59	18	127														
SEP 27	17:00	12.0	35.5	22.0	DH59	26															
OCT 01	18:00	13.0	31.0	22.0	DH59	23															
OCT 06	17:05	10.0	30.5	22.0	DH59	24	134														
OCT 11	16:20	5.5	27.7	22.0	DH59	56															
OCT 15	17:05	5.0	27.1	22.0	DH59	31	132														
OCT 18	13:30	9.0	24.5	22.0	DH59	53															
OCT 23	15:20	9.0	18.7	22.0	DH59	13	118														
OCT 27	18:00	4.5	24.7	22.0	DH59	34															
OCT 28	15:20	4.0	21.5	22.0	DH59	34	123														

NOTE : SINGLE VERTICAL LOCATED AT 22.0 METRES FOR 1987

ALBERTA

LESSER SLAVE RIVER AT HIGHWAY NO. 2A - STATION NO. 07BK005

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY APR-OCT MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1977	---PPPPPPP--	MANUAL	166	APR 12	31	JUL 18	---	---	---	---	---	---
1978	-----PP-P---	MANUAL	70	JUL 05	39	SEP 05	---	---	---	---	---	---
1980	---PPP-PPP--	MANUAL	77	APR 15	16	OCT 28	---	---	---	---	---	---
1981	--PCCCCCCC--	MANUAL	111	JUL 08	15	SEP 30	829	JUL 08	34 300	160	160	---
1982	-----P-P-----	MANUAL	39	AUG 05	23	AUG 31	---	---	---	---	---	---
1983	---PCCCCCC--	MANUAL	284	JUN 25	14	MAY 05	4 070	JUN 25	66 800	---	---	---
1984	--PCCCCCCP--	MANUAL	523	JUN 6	16	MAR 22	4 030	JUN 06	72 600	---	---	---
1985	--PCCCCCCC--	MANUAL	434	JUN 25	17	MAR 28	2 260	JUN 25	62 700	282	326	29.2
1986	--PCCCCCCC--	MANUAL	1 130	JUL 18 *	17	APR 8	8 130	JUL 18 *	69 700 *	416	289	25.6
1987	---PCCCCCC--	MANUAL	73	MAY 5	11	JUL 24 *	441	JUN 02	23 800	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

LITTLE PADDLE RIVER NEAR MAYERTHORPE - STATION NO. 07BB005

LOCATION LAT 53 57 51 N LONG 115 10 28 W
DRAINAGE AREA 288 km²
TYPE OF FLOW NATURAL
TYPE OF GAUGE RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE VERTICAL SAMPLING (m)	TYPE OF SAMPLER	INSTANT. CONCENT (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
APR 24	10 10	4.0	0.285	MID	DH48	37	236														
MAY 22	09 25	7.0	2.40	MID	DH48	103	248														
JUN 15	20 20	20.0	0.094	MID	DIP	11	248														
JUL 13	17 45	20.0	0.040	MID	DIP	6															
AUG 14	08 30	12.0	0.168	MID	DH48	16	301														
SEP 08	14 10E	14.0	0.081	MID	DIP	23															

NOTE SINGLE VERTICAL IS UNDETERMINED FOR 1987

TIME SYMBOL E - ESTIMATED

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1974	-------PPPP--	MANUAL	84	JUL 14	11	SEP 25	---	---	---	---	---	---
1975	---PPPPPP---	MANUAL	184	APR 30	11	JUN 17	---	---	---	---	---	---
1976	---PPPPP----	MANUAL	350	APR 13	6	AUG 10 *	---	---	---	---	---	---
1977	---PPP-PP---	MANUAL	434	MAY 30	14	JUN 22	---	---	---	---	---	---
1978	---PPPPPPP--	MANUAL	1 080	JUN 15 *	17	OCT 30	---	---	---	---	---	---
1979	---PPPPPPP--	MANUAL	895	APR 30	13	AUG 20	---	---	---	---	---	---
1980	---PPPPPPP--	MANUAL	705	APR 15	21	OCT 14	---	---	---	---	---	---
1981	-----PPPPPP--	MANUAL	38	MAY 18	10	JUL 06	---	---	---	---	---	---
1982	-------PPP--	MANUAL	513	JUL 05	19	AUG 31	---	---	---	---	---	---
1983	------P-------	MANUAL	185	JUN 25	185	JUN 25	---	---	---	---	---	---
1984	------P-------	MANUAL	512	JUN 9	512	JUN 9	---	---	---	---	---	---
1985	----PPPPPP--	MANUAL	48	AUG 15	14	SEP 12	---	---	---	---	---	---
1986	---PPPPP--P-	MANUAL	364	JUL 15	8	AUG 28	---	---	---	---	---	---
1987	---PPPPPP---	MANUAL	103	MAY 22	6	JUL 13	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

LOVETT RIVER NEAR THE MOUTH - STATION NO. 07BA003

LOCATION LAT 53 59 50 N LONG 116 39 20 W
DRAINAGE AREA 101 km²
TYPE OF FLOW NATURAL
TYPE OF GAUGE RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP (°C)	INSTANT DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT CONCENT (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
APR 28	10 20	5.0	0.448	2.5 X	DH48	10	230														
JUN 03	11 30	11.0	0.840	4.0 X	DH48	18	227														
JUL 01	09 35	14.0	0.586	3.5 X	DH48	14	285														
JUL 29	10 00	15.0	0.574	3.0 X	DH48	14	169														
SEP 02	12 00	12.0	1.28	3.0 X	DH48	6	170														
OCT 07	09 40	4.0	0.904	2.5 X	DH48	24	259														

NOTE SINGLE VERTICAL IS UNDETERMINED FOR 1987

VERTICAL SYMBOL(S) X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

MACKAY RIVER NEAR FORT MACKAY - STATION NO. 07DB001

LOCATION LAT 57 12 38 N LONG 111 41 36 W
DRAINAGE AREA 5 570 km²
TYPE OF FLOW NATURAL
TYPE OF GAUGE RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP (°C)	INSTANT DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT CONCENT (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAY 02	15 00	14.0	38.7	10LB X	DH48	74	160														
JUN 17	16 30	17.0	43.6	MID X	D48	60	192														
AUG 27	15 50	15.0	19.3	10LB X	DH48	11	219														

NOTE SINGLE VERTICAL IS UNDETERMINED FOR 1987

VERTICAL SYMBOL(S) X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1975	-----PP--P--	MANUAL	353	JUL 20	27	OCT 08	---	---	---	---	---	---
1976	---PP-PPP-P-	MANUAL	698	APR 10	7	AUG 08	---	---	---	---	---	---
1977	---PPPPPPP--	MANUAL	167	APR 21	4	AUG 22	---	---	---	---	---	---
1978	----PPPPPP--	MANUAL	714	MAY 02 *	4	AUG 22	---	---	---	---	---	---
1980	---PPPPPPP--	MANUAL	38	SEP 19	5	MAY 22	---	---	---	---	---	---
1981	----P-PP----	MANUAL	13	MAY 25	1	AUG 28 *	---	---	---	---	---	---
1982	----PP-PP----	MANUAL	92	MAY 24	2	SEP 16	---	---	---	---	---	---
1983	---P-P-PP----	MANUAL	108	APR 26	3	SEP 17	---	---	---	---	---	---
1984	----P--PP----	MANUAL	57	MAY 24	5	SEP 22	---	---	---	---	---	---
1985	---P-P-P-----	MANUAL	280	APR 29	7	AUG 20	---	---	---	---	---	---
1986	----PP-P-----	MANUAL	313	MAY 7	8	AUG 23	---	---	---	---	---	---
1987	----PP-P-----	MANUAL	74	MAY 2	11	AUG 27	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

ALBERTA

MCLEOD RIVER ABOVE EMBARRAS RIVER - STATION NO. 07AF002

LOCATION: LAT 53 28 12 N LONG 116 37 45 W
DRAINAGE AREA: 2 580 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)		TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAY 26	11:10	13.0	24.5	10RB	X	DH48	13	172														
JUN 16	11:20	15.0	9.78	10RB	X	DH48	2	264														
JUL 14	13:15	18.0	20.3	10RB	X	DH48	7	181														
AUG 11	15:20	12.0	77.2	10RB	X	DH48	77	158														
SEP 15	10:20		17.6	40.0	X	DH48	8	192														
OCT 27	10:32	3.0	6.36	44.0	X	DH48	1	240														

NOTE : SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1987

VERTICAL SYMBOL(S): X - NOT AT REGULAR SINGLE SAMPLING VERTICAL, FROM LEFT BANK
x - NOT AT REGULAR SINGLE SAMPLE VERTICAL

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1976	---PPPPPP---	MANUAL	19	AUG 25	3	SEP 22	---	---	---	---	---	---
1977	-----PPP----	MANUAL	30	JUN 22	7	JUL 20	---	---	---	---	---	---
1978	----PPPP----	MANUAL	108	JUN 05	3	AUG 23	---	---	---	---	---	---
1979	----PPPPP---	MANUAL	85	MAY 15	0	AUG 15 *	---	---	---	---	---	---
1980	---PPP-P----	MANUAL	682	JUN 03	11	MAY 05	---	---	---	---	---	---
1981	----PPPP----	MANUAL	113	MAY 11	3	JUL 08	---	---	---	---	---	---
1982	----PPPPPP--	MANUAL	200	MAY 04	5	OCT 27	---	---	---	---	---	---
1983	----PPPPPP--	MANUAL	28	MAY 10	1	SEP 20	---	---	---	---	---	---
1984	---PPPPPP---	MANUAL	38	SEP 24	5	AUG 21	---	---	---	---	---	---
1985	-------PPP--	MANUAL	5	AUG 12	3	SEP 9	---	---	---	---	---	---
1986	----P-P-PP--		1 940	JUL 19 *	3	SEP 9	---	---	---	---	---	---
1987	----PPPPPP--	MANUAL	77	AUG 11	1	OCT 27	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

MCLEOD RIVER NEAR WHITECOURT - STATION NO. 07AG004

LOCATION: LAT 54 00 46 N LONG 115 50 18 W
DRAINAGE AREA: 9 100 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)		TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
APR 23	12:20	6.0	28.1	MID		DH59	6	188														
MAY 21	11:25	9.0	43.8	52.0	X	DH59	9	264														
JUL 14	17:40	20.0	40.8	60.0	X	DH59	9	178														
AUG 12	19:00	10.0	132	28.0	X	DH59	38	167														
OCT 07	09:40	8.0	19.7	MID		DH48	4	240														

NOTE : SINGLE VERTICAL IS UNDETERMINED FOR 1987

VERTICAL SYMBOL(S). X - NOT AT REGULAR SINGLE SAMPLING VERTICAL, FROM LEFT BANK
x - NOT AT REGULAR SINGLE SAMPLE VERTICAL

MCLEOD RIVER NEAR WHITECOURT - STATION NO. 07AC004

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)			SAMPLED CONCENTRATION MINIMUM (mg/L)			SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)			SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1976	---PPPPPP---	MANUAL	27	APR 21		3	SEP 22		150	APR 21	*	---	---	---	---
1977	---PPP-PP---	MANUAL	1 240	MAY 31		12	APR 20		---	---		---	---	---	---
1978	---PPPPPPP--	MANUAL	678	JUN 16		3	AUG 28		---	---		---	---	---	---
1979	----PPPPPP--	MANUAL	287	MAY 01		0	AUG 22	*	---	---		---	---	---	---
1980	---PPPPPPP--	MANUAL	1 650	JUN 07	*	5	OCT 15		---	---		---	---	---	---
1981	---PPPPPPP--	MANUAL	32	MAY 18		3	SEP 08		---	---		---	---	---	---
1982	-----PP-P---	MANUAL	1 470	JUL 07		5	JUN 22		---	---		---	---	---	---
1983	-----PPP----	MANUAL	116	JUL 08		2	AUG 31		---	---		---	---	---	---
1984	----P-P-----	MANUAL	300	MAY 3		54	JUL 24		---	---		---	---	---	---
1985	-----PPPP--	MANUAL	18	AUG 13		4	JUL 18		---	---		---	---	---	---
1986	----PPPP--P-	MANUAL	157	MAY 7		2	AUG 28		---	---		---	---	---	---
1987	---PP-PP-P--	MANUAL	39	AUG 12		4	OCT 7		---	---		---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH

* - EXTREME FOR PERIOD OF RECORD

MILK RIVER AT MILK RIVER - STATION NO. 11AA005

LOCATION: LAT 49 08 37 N LONG 112 04 44 W
DRAINAGE AREA: 2 720 km²
TYPE OF FLOW: REGULATED SINCE 1918
TYPE OF GAUGE: RECORDING

INTERNATIONAL GAUGING STATION

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)		TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAR 17	13:55	3.0	15.5	16.0	X	DH48	673	147	17	25	44	64	84	94	98	99	100			6	89	25
APR 07	11:05	7.0	28.1	21.0	X	DH48	768	173	13	23	38	48	70	86	96	100				14	63	23
APR 28	08:35	11.0	8.80	7.0	X	DH48	14	189														
APR 30	19:00	18.0	8.81	10.8	X	DH48	14	191														
MAY 26	10:35	12.0	10.3	7.0	X	DH48	32	118														
JUN 15	17:30	17.0	13.6	12.0	X	DH48	57	85														
JUL 28	07:00	21.0	18.3	12.0	X	DH48	83	118														
SEP 01	09:00	17.0	16.3	8.0	X	DH48	44	112														
SEP 28	09:25	8.0	0.942	4.0	X	DH48	6	315														
OCT 27	10:05	2.0	0.805	WELB	X	DIP	9															

NOTE : SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1987

VERTICAL SYMBOL(S): X - NOT AT REGULAR SINGLE SAMPLING VERTICAL,FROM LEFT BANK
x - NOT AT REGULAR SINGLE SAMPLE VERTICAL

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)			SAMPLED CONCENTRATION MINIMUM (mg/L)			SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)			SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MAR-OCT MEAN LOAD (TONNES)	SUMMARY : MAR-OCT HISTORICAL MEAN LOAD (TONNES)	SUMMARY : MAR-OCT STANDARD ERROR OF MEAN %
1974	----PPPPPP--	MANUAL	562	MAY 08		3	OCT 17		---	---		---	---	---	---
1975	-PPPPPPPPP--	MANUAL	5 130	JUN 21	*	8	APR 15		---	---		---	---	---	---
1976	--PPPPPPPP--	MANUAL	758	MAY 11		14	OCT 13		---	---		---	---	---	---
1981	--CCCCCCCCP-	MANUAL	831	MAR 11		7	NOV 02		3 880	MAY 17		80 500	388	388	---
1982	--CCCCCCCCP-	MANUAL	4 070	APR 14		3	SEP 06	*	38 400	APR 14	*	129 000	* 526	448	17.5
1983	--PPPPPPPP--	MANUAL	3 300	JUN 15		3	SEP 13		---	---		---	---	---	---
1984	--PPPP-P-P--	MANUAL	434	MAY 30		5	OCT 31		---	---		---	---	---	---
1985	--PPPPPP-PP-	MANUAL	1 480	APR 3		5	NOV 5		---	---		---	---	---	---
1986	--PPPPPPPP--	MANUAL	296	JUN 24		4	SEP 28		---	---		---	---	---	---
1987	--PPPPP-PP--	MANUAL	758	APR 7		8	SEP 30		---	---		---	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH

P - PARTIAL MONTH

* - EXTREME FOR PERIOD OF RECORD

ALBERTA

MUSKEG RIVER NEAR FORT MACKAY - STATION NO. 07DA003

LOCATION: LAT 57 11 30 N LONG 111 34 05 W
DRAINAGE AREA: 1 480 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE VERTICAL SAMPLING (m)		TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002 .004 .008 .016 .031 .062 .125 .250 .500 1.00 2.00	PERCENT SAND SILT CLAY
MAY 03	11:10	12.0	22.8	10LB	X	DH48	7	153		
JUN 18	11:45	16.0	8.63	MID	X	DH48	4	217		
AUG 28	11:50	16.0	0.883	10LB	X	DH48	4			

NOTE : SINGLE VERTICAL IS UNDETERMINED FOR 1987

VERTICAL SYMBOL(S): X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1976	---PP-PPP-P-	MANUAL	61	APR 11	3	AUG 03 *	---	---	---	---	---	---
1977	---PPPPPPP--	MANUAL	28	APR 20	3	AUG 25	---	---	---	---	---	---
1978	---PPPPPP---	MANUAL	15	APR 24	3	JUN 26	---	---	---	---	---	---
1979	----PPPPPP--	MANUAL	13	MAY 02	5	MAY 30	---	---	---	---	---	---
1980	---PPPPPPP--	MANUAL	15	APR 24	5	OCT 25	---	---	---	---	---	---
1981	----P-PP----	MANUAL	6	JUL 15	3	MAY 27	---	---	---	---	---	---
1982	----PP-PP---	MANUAL	8	MAY 19	4	JUN 25	---	---	---	---	---	---
1983	---P-P-PP---	MANUAL	11	APR 27	3	AUG 07	---	---	---	---	---	---
1984	----P--PP---	MANUAL	59	SEP 21 *	5	AUG 11	---	---	---	---	---	---
1985	---P-P-P----	MANUAL	20	APR 30	6	AUG 21	---	---	---	---	---	---
1986	----PP-P----	MANUAL	10	MAY 9	3	AUG 23	---	---	---	---	---	---
1987	----PP-P----	MANUAL	7	MAY 3	4	JUN 18	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

NORTH SASKATCHEWAN RIVER AT EDMONTON - STATION NO. 05DF001

LOCATION: LAT 53 32 15 N LONG 113 29 04 W
DRAINAGE AREA: 28 000 km²
TYPE OF FLOW: REGULATED SINCE 1980
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE VERTICAL SAMPLING (m)		TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002 .004 .008 .016 .031 .062 .125 .250 .500 1.00 2.00	PERCENT SAND SILT CLAY
APR 13	16:15	1.0	238	73.0	K	DH59	239	184		
APR 28	09:40	8.0	159	121	K	DH59	64	227		
MAY 25	13:00	20.0	168	118		DH59	31	226		
JUN 24	15:25	18.0	208	118		DH59	38	189		
JUL 29	15:40	24.0	234	118		DH59	93	178		
AUG 26	16:35	17.0	156	118		DH59	12	216		
SEP 30	16:45	15.0	184	118		DH59	15	182		
NOV 04	16:15	4.0	113	118		DH59	8	201		

NOTE : SINGLE VERTICAL LOCATED AT 118 METRES FOR 1987

VERTICAL SYMBOL(S): K - NOT AT REGULAR SINGLE SAMPLING VERTICAL, FROM LEFT BANK

NORTH SASKATCHEWAN RIVER AT EDMONTON - STATION NO. 05DF001

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1974	-------P------	MANUAL	1 580	JUL 13	220	JUL 18	---	---	---	---	---	---
1975	----P-PPP---	MANUAL	97	MAY 18	3	SEP 23 *	---	---	---	---	---	---
1976	----P-PP------	MANUAL	143	APR 09	34	JUL 22	---	---	---	---	---	---
1977	----PPP-P---	MANUAL	2 480	MAY 30 *	25	SEP 28	---	---	---	---	---	---
1978	---PPPPPP-P-	MANUAL	777	JUN 08	7	AUG 31	---	---	---	---	---	---
1979	---PPPPPP-P-	MANUAL	400	APR 27	7	AUG 23	---	---	---	---	---	---
1980	------PPPP---	MANUAL	142	JUN 02	28	SEP 26	---	---	---	---	---	---
1981	----PP------	MANUAL	287	MAY 28	84	MAY 07	---	---	---	---	---	---
1982	----PPPPPP--	MANUAL	1 880	JUL 07	11	AUG 10	---	---	---	---	---	---
1983	----P-PPPP-P-	MANUAL	398	APR 28	8	AUG 31	---	---	---	---	---	---
1984	---PPPPP-P--	MANUAL	251	JUN 13	8	OCT 3	---	---	---	---	---	---
1985	---PP--PP---	MANUAL	214	APR 7	11	AUG 8	---	---	---	---	---	---
1986	---PPPPPPPP-	MANUAL	254	APR 15	8	SEP 15	---	---	---	---	---	---
1987	---PPPPPP-P-	MANUAL	239	APR 13	8	NOV 4	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH

* - EXTREME FOR PERIOD OF RECORD

NORTH SASKATCHEWAN RIVER AT WHIRLPOOL POINT - STATION NO. 05DA005

LOCATION: LAT 52 00 08 N LONG 116 28 10 W
DRAINAGE AREA: 1 920 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE VERTICAL SAMPLING (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	PERCENT SILT	PERCENT CLAY
MAY 28	15:40	8.0	88.2	9.0	D49	88	128														
JUN 18	13:05	10.0	183	9.0	D49	72	104														
JUL 30	16:30	13.0	224	9.0	D49	172	80														
AUG 27	15:40	11.0	80.9	9.0	D49	32	88														
SEP 24	15:15	7.5	89.9	9.0	D49	32	88														

NOTE : SINGLE VERTICAL LOCATED AT 9.0 METRES FOR 1987

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : APR-OCT MEAN LOAD (TONNES)	SUMMARY : APR-OCT HISTORICAL MEAN LOAD (TONNES)	SUMMARY : APR-OCT STANDARD ERROR OF MEAN %
1972	----CCCCCCCC	DUAL	374	JUN 12	9	NOV 27	20 300	JUN 11 *	287 000	---	---	---
1973	CCCCCCCCCCCC	DUAL	928	MAY 19 *	0	NOV 20 *	20 200	JUN 24	278 000 *	1 300	1 300	---
1974	CCCCCCCCCCCC	DUAL	580	JUL 16	1	NOV 27	13 400	JUN 17	288 000	1 210	1 280	3.8
1975	CCCCCCCCCCCC	DUAL	570	JUL 13	0	JAN 15	14 100	JUL 13	280 000	1 170	1 230	3.1
1976	CCCCPCCCCCCC	DUAL	371	AUG 25	2	FEB 24	5 640	AUG 04	188 000	---	---	---
1977	CCCCCCCCCCCC	MANUAL	808	JUN 08	1	NOV 15	10 000	JUN 08	137 000	837	1 080	13.8
1978	CCCCCCCCCCCC	MANUAL	486	SEP 04	1	JAN 09	8 090	JUL 27	280 000	1 220	1 110	10.6
1979	P---CCCCCCCP-	MANUAL	803	JUN 01	2	JAN 15	10 300	MAY 27	338 000	1 070	1 100	8.9
1980	---CCCCCC---	MANUAL	784	JUL 23	5	SEP 27	15 100	JUL 23	209 000	---	---	---
1981	-----CCCCCC--	MANUAL	437	JUL 28	5	MAY 05	10 800	JUL 28	257 000	---	---	---
1982	------PPPPP--	MANUAL	128	JUL 27	7	OCT 19	---	---	---	---	---	---
1983	---PPPPPPP--	MANUAL	241	MAY 31	2	OCT 18	---	---	---	---	---	---
1984	---PPPPPP---	MANUAL	238	JUL 31	0	APR 30	---	---	---	---	---	---
1985	-----PP-PP---	MANUAL	184	AUG 1	13	SEP 26	---	---	---	---	---	---
1986	------PPP----	MANUAL	280	JUN 19	37	JUL 31	---	---	---	---	---	---
1987	----PPPPP---	MANUAL	172	JUL 30	32	AUG 27	---	---	---	---	---	---

DUAL - MANUAL AND AUTOMATIC SAMPLING MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

ALBERTA

NOTIKEWIN RIVER AT MANNING - STATION NO. 07HC001

LOCATION: LAT 56 55 10 N LONG 117 37 05 W
DRAINAGE AREA: 4 680 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: MANUAL

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	PERCENT SILT	PERCENT CLAY
APR 24	09:35	4.0	30.4	30.0 K	DH59	178	127														
MAY 26	10:25	15.0	8.75	30.0 K	DH59	12	177														
JUN 24	09:20	15.0	9.30	30.0 K	DH59	9	208														
JUL 28	11:40	21.5	4.23	32.0 K	DH59	10	189														
AUG 04	14:50	13.0	189	30.0 K	DH59	3540	214	25	33	49	63	75	84	91	99	100			18	61	33
AUG 25	10:10	14.0	15.1	30.0 K	DH59	24	173														
OCT 01	10:15	9.5	2.37	30.0 K	DH59	8	242														
OCT 28	09:30	2.0	1.80	21.0 K	DH48	5	271														

NOTE - SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1987

VERTICAL SYMBOL(S): K - NOT AT REGULAR SINGLE SAMPLING VERTICAL, FROM LEFT BANK

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1974	--------P-P-	MANUAL	61	SEP 18	8	NOV 01	---	---	---	---	---	---
1975	---PPPPPPP--	MANUAL	611	APR 28	4	AUG 11	---	---	---	---	---	---
1976	---PPPPP-P--	MANUAL	2 520	JUN 29	13	OCT 01	---	---	---	---	---	---
1977	---P-PP-PP--	MANUAL	281	APR 18	13	JUL 28	---	---	---	---	---	---
1978	----P-PP-P--	MANUAL	3 400	MAY 25	6	AUG 31	---	---	---	---	---	---
1979	----PPPPPP--	MANUAL	2 080	MAY 11	9	OCT 28	---	---	---	---	---	---
1980	---P--PPP---	MANUAL	183	SEP 28	16	SEP 02	---	---	---	---	---	---
1981	----PPPPPP--	MANUAL	84	MAY 25	8	OCT 26	---	---	---	---	---	---
1982	----PPPP----	MANUAL	1 850	MAY 03	2	JUL 23 *	---	---	---	---	---	---
1983	----PP-PP---	MANUAL	3 830	JUN 21 *	7	SEP 01	---	---	---	---	---	---
1984	---PPP-P----	MANUAL	883	MAY 26	8	AUG 2	---	---	---	---	---	---
1985	----PPPP-P--	MANUAL	830	MAY 8	3	AUG 27	---	---	---	---	---	---
1986	---PPPPPP---	MANUAL	2 810	MAY 8	3	SEP 24	---	---	---	---	---	---
1987	---PPPPP-P--	MANUAL	3 540	AUG 4	6	OCT 28	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH

* - EXTREME FOR PERIOD OF RECORD

ALBERTA

OLDMAN RIVER NEAR BROCKET - STATION NO. 05AA024

SUSPENDED SEDIMENT FOR 1987

LOCATION: LAT 49 33 27 N LONG 113 49 20 W
DRAINAGE AREA: 4 400 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

TOTAL SUSPENDED SEDIMENT LOAD 50 800 TONNES FOR THE PERIOD MAR 25 TO NOV 04

REMARKS:

DAY	MAR DAILY DISCHARGE (m³/s)	MAR MEAN CONCENTRATION (mg/L)	MAR DAILY LOAD (t)	APR DAILY DISCHARGE (m³/s)	APR MEAN CONCENTRATION (mg/L)	APR DAILY LOAD (t)	MAY DAILY DISCHARGE (m³/s)	MAY MEAN CONCENTRATION (mg/L)	MAY DAILY LOAD (t)	DAY
1	7.80 B									
2	8.90 B			18.7	26 S	46.2	178	325 S	4 940	1
3	10.0 B			18.4	33 S	52.5	188	302	4 380	2
4	11.3 B			22.0	48 S	93.1	137	201	2 380	3
5	14.0 B			26.0	80 S	180	114	85 S	847	4
				33.1	80 S	228	109	82 S	690	5
6	16.0 B									
7	16.5 B			42.4	81	297	114	45 S	443	6
8	16.5 B			46.8	84 S	340	122	84 S	969	7
9	16.5 B			48.1	78	324	134	78	903	8
10	16.8 B			46.1	51 S	203	148	98 S	1 240	9
				41.9	38	138	149	97 S	1 250	10
11	16.7 B									
12	16.3 B			42.3	36	126	140	57 S	688	11
13	16.6 B			39.7	32	110	138	47 S	548	12
14	16.8 B			36.0	26 S	80.8	148	50	928	13
15	16.8 B			35.3	21 S	64.0	127	32 S	351	14
				40.7	53	188	117	29 S	293	15
16	16.1 B									
17	15.3 B			53.1	49	226	115	26	258	16
18	14.8 B			69.3	36	226	106	17	155	17
19	14.9 B			70.6	31	189	94.2	11 S	89.5	18
20	14.0 B			63.0	30	163	87.5	10	75.6	19
				55.3	30 S	143	81.0	11 S	77.0	20
21	14.1 B									
22	13.2 B			51.5	29 S	128	73.7	8	57.3	21
23	12.6 B			56.3	36 S	176	67.9	7 S	41.1	22
24	12.8 B			55.5	26	127	61.4	7	37.1	23
25	13.1 B			54.5	20 S	94.3	65.9	7 S	33.6	24
				57.3	24	118	64.1	6 S	28.0	25
26	14.7 B	6 S	10.2							
27	13.6 B	7	8.23	50.5	28 S	147	54.5	5	28.3	26
28	10.3 B	5	4.45	55.3	53 S	304	58.1	7 S	35.1	27
29	10.5 B	7	6.41	54.0	481	3 490	55.3	8 S	45.8	28
30	13.8 B	12	14.3	110	498 S	4 710	57.4	6	46.6	29
31	15.4	13 S	17.3	158	388 S	5 300	61.5	6	31.8	30
							61.5	8	42.5	31
TOTAL	441.80		80.89	1 804.0		18 014.0	3 189.1		21 032.5	TOTAL

DAY	JUN DAILY DISCHARGE (m³/s)	JUN MEAN CONCENTRATION (mg/L)	JUN DAILY LOAD (t)	JUL DAILY DISCHARGE (m³/s)	JUL MEAN CONCENTRATION (mg/L)	JUL DAILY LOAD (t)	AUG DAILY DISCHARGE (m³/s)	AUG MEAN CONCENTRATION (mg/L)	AUG DAILY LOAD (t)	DAY
1	61.2	9 S	47.6							
2	58.3	8 S	39.2	22.8	13 S	25.7	35.2	13	38.5	1
3	51.3	7 S	31.0	22.0	11	20.9	31.8	13	38.5	2
4	49.1	7	29.7	20.8	8 S	14.4	29.6	14	39.7	3
5	51.8	8 S	35.8	20.0	5	8.64	28.0	13	31.4	4
				21.1	4 S	7.29	26.3	12	27.3	5
6	57.4	11	54.8							
7	60.8	12	62.7	23.2	4	8.02	25.0	12	27.0	6
8	58.7	12 S	61.8	20.8	3 S	5.42	24.7	12	25.6	7
9	59.3	12	61.5	18.8	4	6.93	23.1	12	24.0	8
10	55.8	11 S	53.0	18.9	6 S	13.1	22.3	12	23.1	9
				21.1	13	23.7	21.7	12	22.6	10
11	53.5	10 S	46.2							
12	50.7	10	43.8	22.1	17	32.6	28.3	20	46.9	11
13	48.8	10	42.0	18.4	18	30.2	28.9	24 S	59.8	12
14	48.4	10 S	41.8	17.5	17	25.7	26.5	21	48.3	13
15	47.3	8 S	38.7	18.2	17 S	23.8	36.5	28	89.0	14
				15.2	26 S	34.1	42.9	32	118	15
16	47.7	8	37.1							
17	46.8	8	31.7	15.0	72	93.3	39.1	31	105	16
18	41.0	8 S	28.3	17.7	288	442	39.8	28	89.3	17
19	41.6	8	28.8	25.7	432	989	34.1	25	73.7	18
20	42.8	8	29.4	84.1	238	1 710	31.7	22	60.3	19
				85.2	97 S	714	30.1	20	52.0	20
21	40.8	8	28.0							
22	37.5	7	22.7	71.1	51 S	313	27.8	18	45.8	21
23	34.0	6	17.6	74.7	182 S	1 170	28.7	17	39.2	22
24	30.8	6 S	15.8	85.4	246 S	2 030	25.4	16	37.8	23
25	27.8	4 S	9.61	61.0	109 S	763	27.3	18	37.7	24
				57.7	39	228	30.9	20	53.4	25
26	26.0	5 S	11.2							
27	25.1	8	17.3	59.5	19	97.7	29.5	19 S	48.4	26
28	25.6	18	38.4	50.8	13 S	57.2	28.3	16	44.0	27
29	24.6	18 S	34.0	45.8	12 S	47.6	26.7	14	32.3	28
30	23.3	14	28.2	42.0	13 S	47.2	25.1	12	28.0	29
31				38.2	13	44.0	24.2	8	16.7	30
				38.2	13	43.9	23.3	8 S	12.1	31
TOTAL	1 324.5		1 052.81	1 183.5		9 038.80	899.1		1 428.5	TOTAL

B - ICE CONDITIONS

S - SAMPLE(S) COLLECTED THIS DAY

OLDMAN RIVER NEAR BROCKET - STATION NO. 05AA024

SUSPENDED SEDIMENT FOR 1987

	SEP			OCT			NOV			
DAY	DAILY DISCHARGE (m^3/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m^3/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m^3/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAY
1	22.3	4	7.71	12.0	1	1.04	9.35	3	2.42	1
2	21.2	4	7.33	11.7	2	2.02	9.25	2	1.80	2
3	20.7	4	7.15	11.4	2	1.97	8.83	1	0.76	3
4	21.2	4	7.33	10.9	2	1.88	8.85	1.5	0.75	4
5	20.9	4	7.22	10.8	2	1.87	8.70			5
6	20.4	4	7.05	10.7	2.5	1.85	8.59			6
7	20.4	4.5	7.05	10.8	2	1.87	8.44			7
8	19.6	4	6.77	10.5	2	1.83	8.04			8
9	19.8	4	6.80	10.5	2	1.83	8.24			9
10	18.3	4.5	6.32	10.5	2	1.83	8.40			10
11	17.8	3	4.58	10.3	2	1.78	9.13			11
12	17.2	3	4.45	10.4	2	1.80	9.03			12
13	16.7	3	4.33	10.2	2	1.78	8.92			13
14	16.5	3	4.28	10.2	2	1.78	8.93			14
15	15.9	2	2.75	10.3	2	1.78	8.79			15
16	15.5	2	2.68	10.4	2	1.80	7.32			16
17	15.4	2.5	2.66	10.3	2.5	1.78	3.85			17
18	15.2	2	2.63	10.3	2	1.78	4.06	B		18
19	15.0	2	2.59	9.78	2	1.69	9.32	B		19
20	14.8	2	2.56	9.15	2	1.58	10.9	B		20
21	14.5	2	2.51	9.75	2	1.68	10.2	B		21
22	14.2	2	2.45	10.1	2	1.75	9.25	B		22
23	12.8	2	2.21	9.50	2	1.64	8.12	B		23
24	11.9	2.5	2.06	9.37	3	2.43	7.86	B		24
25	11.8	2	2.04	9.79	3	2.54	7.00	B		25
26	12.2	2	2.11	9.88	4	3.42	5.50	B		26
27	13.5	1	1.17	9.63	4	3.29	5.30	B		27
28	13.6	1	1.18	9.33	4	3.22	4.80	B		28
29	12.7	1	1.10	9.28	4	3.21	4.20	B		29
30	12.2	1.5	1.05	9.27	4.5	3.20	3.10	B		30
31				9.30	4	3.21				31
TOTAL	493.0		121.81	316.54		85.09	232.87		5.83	TOTAL

OLDMAN RIVER NEAR BROCKET - STATION NO. 05AA024

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m^3/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAR 28	09:10	3.0	14.7	46.0	D49	8	215														
MAR 31	10:00	5.0	14.7	46.0	D49	12															
APR 01	13:30	7.0	15.4	46.0	D49	31															
APR 02	13:00	8.0	17.8	46.0	D49	32															
APR 03	15:00	10.0	23.0	46.0	D49	46	229														
APR 04	16:00	10.0	26.7	46.0	D49	81															
APR 05	18:00	10.0	34.3	46.0	D49	81															
APR 07	19:00	8.0	46.2	46.0	D49	83															
APR 08	14:05	5.0	45.6	46.0	D49	46															
APR 13	15:00	10.0	38.1	46.0	D49	26	188														
APR 14	10:00	9.0	36.3	46.0	D49	20															
APR 20	19:00	11.0	53.8	46.0	D49	30	188														
APR 21	19:30	12.0	51.0	46.0	D49	28															
APR 22	11:00	8.0	58.6	46.0	D49	38															
APR 24	11:30	8.0	55.2	46.0	D49	21															
APR 26	17:00	11.0	53.2	46.0	D49	33															
APR 27	19:30	13.0	53.1	46.0	D49	58	170														
APR 28	11:00		111	46.0	D49	482	189	8	11	22	31	51	84	77	98	100			36	53	11
APR 30	19:00		162	46.0	D49	382															
MAY 01	19:30	8.0	178	46.0	D49	327															
MAY 04	19:30	12.0	108	46.0	D49	46															
MAY 05	10:30	6.0	111	46.0	D49	57	154														
MAY 06	19:15	13.0	118	46.0	D49	46															
MAY 07	17:00	13.0	125	46.0	D49	80															
MAY 08	15:00	12.0	150	46.0	D49	101															
MAY 10	13:30	11.0	151	46.0	D49	102															
MAY 11	18:00	11.0	137	46.0	D49	47															
MAY 12	18:00	11.0	136	46.0	D49	91	121														
MAY 14	15:00	12.0	125	46.0	D49	28															
MAY 15	11:30	13.0	119	46.0	D49	28															
MAY 18	19:30	11.0	91.8	46.0	D49	10															
MAY 20	11:00	7.0	81.8	46.0	D49	11	133														
MAY 22	10:30	6.0	88.7	46.0	D49	7															
MAY 24	13:00	11.0	85.5	46.0	D49	8															
MAY 25	18:30	10.0	84.7	46.0	D49	8															
MAY 27	15:30	10.0	88.8	46.0	D49	7	145														
MAY 28	09:00	10.0	88.5	46.0	D49	8															
JUN 01	15:30	8.0	81.1	46.0	D49	9															
JUN 02	11:00	8.0	86.7	46.0	D49	8															
JUN 03	20:00	15.0	80.3	46.0	D49	7															
JUN 05	20:00	17.0	64.4	46.0	D49	10	150														
JUN 08	17:00	13.0	80.3	46.0	D49	12															
JUN 10	11:00	13.0	85.8	46.0	D49	12															
JUN 11	11:30	14.0	83.8	46.0	D49	10	151														
JUN 14	19:30	20.0	48.0	46.0	D49	10															
JUN 15	11:30	17.0	47.1	46.0	D49	9															
JUN 18	13:00	15.0	40.4	46.0	D49	6	163														
JUN 24	11:30	14.0	30.8	46.0	D49	8															
JUN 25	12:30	17.0	27.8	46.0	D49	4	167														
JUN 26	13:00	18.0	26.9	46.0	D49	5															
JUN 29	15:00	20.0	24.3	46.0	D49	15															
JUL 01	11:30	18.0	23.0	46.0	D49	13	181														
JUL 03	18:00	20.0	20.5	46.0	D49	5															
JUL 05	18:00	17.0	21.8	46.0	D49	4															
JUL 07	19:30	18.0	19.8	46.0	D49	3	189														
JUL 09	18:00	15.0	16.0	46.0	D49	8															
JUL 14	18:00	24.0	15.8	46.0	D49	17	182														
JUL 15	13:35	19.0	15.1	46.0	D49	24															
JUL 20	11:30	12.0	64.8	46.0	D49	98															
JUL 20	19:30	17.0	78.8	46.0	D49	66															
JUL 21	09:12	16.0	71.4	46.0	D49	39															
JUL 22	16:30	16.0	78.0	46.0	D49	232	140	21	34	48	62	81	91	94	98	100			5	67	24
JUL 23	16:00	15.0	84.8	46.0	D49	221	148	7	17	41	64	83	91	98	99	100			9	74	17
JUL 24	19:30	15.0	78.1	46.0	D49	75															
JUL 27	19:30	15.0	48.6	46.0	D49	13															
JUL 28	12:30	21.0	44.3	46.0	D49	12															
JUL 29	19:30	20.0	41.3	46.0	D49	13	176														
AUG 12	14:00	14.0	28.4	46.0	D49	24	183														
AUG 26	11:30	12.0	28.2	46.0	D49	19	187														
AUG 26	13:45	13.0	30.2	46.0	D49	20															
AUG 31	13:30	15.0	23.2	46.0	D49	5	186														
SEP 07	12:30	14.0	20.4	46.0	D49	4	183														
SEP 10	10:00	15.0	18.2	46.0	D49	4	202														
SEP 17	16:30	12.0	15.5	46.0	D49	2															
SEP 24	12:30	13.0	11.8	46.0	D49	2	208														
SEP 30	12:00	11.0	12.2	46.0	D49	1	208														
OCT 06	12:15	10.0	10.7	46.0	D49	2	211														
OCT 17	15:30	6.0	10.3	46.0	D49	3	224														
OCT 30	13:00	10.0	9.27	46.0	D49	4	221														
NOV 04	11:30	8.0	8.74	46.0	D49	1	210														

NOTE : SINGLE VERTICAL LOCATED AT 46 METRES FOR 1987

ALBERTA

OLDMAN RIVER NEAR BROCKEY - STATION NO. 05AA024

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)			SAMPLED CONCENTRATION MINIMUM (mg/L)			SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)			SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MAR-OCT MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	HISTORICAL STANDARD ERROR OF MEAN %
1966	----CCCCCCCC	MANUAL	330	JUN	05	1	OCT	10	7 190	JUN	05	91 800	---	---	---
1967	CCCCCCCCCCCC	MANUAL	2 600	MAY	31	2	JAN	11	137 000	MAY	31	803 000	3 880	3 880	---
1968	CCCCCCCCCCCC	MANUAL	949	MAY	23	1	JAN	08	24 400	MAY	23	77 700	311	2 000	84.2
1969	CCCCCCCCCCCC	MANUAL	1 830	JUN	26	0	SEP	15 *	73 600	JUN	26	348 000	1 010	1 870	81.5
1970	CCCCCCCCCCCC	MANUAL	872	JUN	14	0	OCT	22	29 500	JUN	14	127 000	517	1 380	55.6
1971	CCCCCCCCCCCC	MANUAL	840	MAY	06	1	SEP	21	12 700	MAY	28	131 000	530	1 210	51.9
1972	CCCCCCCCCCCC	MANUAL	1 720	MAY	31	0	OCT	27	94 500	JUN	01	883 000	2 790	1 470	39.2
1973	CCCCCCCCCCCC	MANUAL	831	MAY	18	0	OCT	31	8 920	MAY	18	42 800	172	1 290	40.4
1974	CCCCCCCCCCCC	MANUAL	867	MAY	08	2	SEP	25	23 900	JUN	17	277 000	1 130	1 270	35.6
1975	CCCCCCCCCCCC	MANUAL	5 880	JUN	20 *	0	FEB	23	586 000	JUN	20 *	1 110 000 *	4 500	1 630	32.9
1976	CCCCCCCCCCCC	MANUAL	2 130	AUG	06	1	SEP	29	49 500	AUG	06	177 000	718	1 540	31.7
1977	CCCCCCCCCCCC	MANUAL	108	APR	07	3	JAN	05	283	APR	09	6 990	27.1	1 400	33.0
1978	CCCCCCCCCCCC	MANUAL	1 220	MAY	15	2	FEB	14	20 000	MAY	15	222 000	905	1 380	31.2
1979	CCCCCCCCCC--	MANUAL	387	MAY	25	1	SEP	01	8 510	MAY	27	88 100	358	1 280	31.1
1980	--CCCCCCCP-	MANUAL	844	MAY	27	4	NOV	03	13 900	MAY	27	79 100	323	1 210	31.0
1981	--CCCCCCCC--	MANUAL	1 700	MAY	22	4	OCT	27	70 100	MAY	22	405 000	1 850	1 240	28.2
1982	---CCCCCC---	MANUAL	483	MAY	26	4	AUG	30	7 240	MAY	26	55 800	---	---	---
1983	--CCCCCCCC--	MANUAL	241	MAY	27	2	SEP	20	3 980	MAY	26	34 200	140	1 170	28.6
1984	--PCCCCCCC--	MANUAL	146	MAY	17	1	AUG	29	1 320	MAY	16	15 700	---	---	---
1985	---CCCCCCC--	MANUAL	288	SEP	13	3	JUL	30	2 230	SEP	13	29 800	---	---	---
1986	--CCCCCCCP-	MANUAL	1 140	MAY	29	3	SEP	16	27 800	MAY	29	196 000	801	1 150	27.4
1987	--PCCCCCCP-	MANUAL	492	APR	29	1	SEP	30	5 300	APR	30	50 800	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

OLDMAN RIVER NEAR LETHBRIDGE - STATION NO. 05AD007

SUSPENDED SEDIMENT FOR 1987

LOCATION: LAT 49 42 30 N LONG 112 52 30 W
DRAINAGE AREA: 17 000 km²
TYPE OF FLOW: REGULATED SINCE 1910
TYPE OF GAUGE: RECORDING

TOTAL SUSPENDED SEDIMENT LOAD 205 000 TONNES FOR THE PERIOD MAR 01 TO OCT 31

REMARKS:

	MAR			APR			MAY			
DAY	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAY
1	14.0 B	30	36.2	31.3 B	21	58.8	180	1 580 S	25 100	1
2	17.7 B	32	33.6	33.4	24	69.3	217	1 270 S	33 800	2
3	23.2	26	60.1	42.8	27	100	217	930 S	17 400	3
4	27.7	31	74.2	46.3	30	120	192	644 S	10 700	4
5	28.7	37	94.9	55.9	80	290	189	309 S	4 240	5
6	38.4	42 S	132	75.0	184	1 180	137	172 S	2 040	6
7	48.8	48	194	85.3	348 S	2 550	128	111 S	1 200	7
8	44.3	53	203	83.4	235	1 890	138	119 S	1 400	8
9	40.4	58	195	80.4	101 S	702	144	148 S	1 850	9
10	34.3	60	178	76.4	64	422	137	147 S	1 740	10
11	32.8	62	176	71.5	48 S	297	139	151 S	1 810	11
12	36.9	64 S	204	88.8	41	244	130	107 S	1 110	12
13	37.1	60	192	85.8	37 S	214	114	88 S	847	13
14	36.2	52	163	81.8	35	188'	128	112 S	1 210	14
15	35.2	41	125	52.3	35 S	158	114	83 S	818	15
16	34.2	30	88.8	54.7	44	208	121	87 S	910	16
17	33.7	22	64.1	85.9	85 S	378	123	85 S	891	17
18	33.8	16 S	46.4	84.1	123	884	114	67 S	483	18
19	34.7	14	42.0	81.8	212 S	1 880	97.8	33 S	278	19
20	35.4	12	36.7	81.8	217	1 720	88.0	24	182	20
21	33.9	11	32.2	87.5	88 S	885	88.3	19 S	112	21
22	33.1	11	31.8	79.8	55	379	87.7	18	84.7	22
23	33.0	11	31.4	78.3	50 S	343	81.4	19 S	84.4	23
24	31.5	11	29.9	74.5	46	312	44.8	18	69.4	24
25	30.4	11 S	26.8	72.3	43 S	289	37.8	17	55.5	25
26	30.5 B	11	28.0	70.1	41	248	36.0	15	46.7	26
27	30.4 B	12	31.5	72.6	40 S	251	38.3	12 S	37.8	27
28	30.2 B	13	33.9	77.7	52	349	38.2	15 S	50.8	28
29	28.5 B	14	32.1	84.1	144 S	1 170	88.2	145	828	29
30	27.1 B	16	37.5	133	594 S	6 830	73.1	388	2 250	30
31	28.1 B	18 S	46.3				70.4	197	1 200	31
TOTAL	1 000.0		2 680.0	2 184.5		23 983.1	3 380.6		103 618.1	TOTAL

	JUN			JUL			AUG			
DAY	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAY
1	88.5	59	348	7.39	5 S	3.19	27.3	9	21.2	1
2	88.8	36	182	8.44	5	2.35	28.1	8 S	18.0	2
3	78.4	73 S	494	4.87	5	2.02	24.7	7	14.9	3
4	83.1	386	3 100	4.26	5	1.84	22.0	8 S	15.2	4
5	87.5	450 S	3 400	7.43	8	3.85	20.5	8	14.2	5
6	88.8	225 S	1 330	7.72	8	4.00	17.9	8 S	12.4	6
7	84.1	92 S	430	5.71	6	2.88	16.8	10	14.5	7
8	47.3	45	184	5.13	5 S	2.22	18.8	14	20.1	8
9	46.6	23 S	92.8	5.20	4	1.80	18.4	18	24.0	9
10	48.1	18	89.7	5.30	4	1.83	14.7	23 S	29.2	10
11	42.4	14 S	51.3	5.51	4	1.80	15.4	29	36.8	11
12	46.3	14	56.0	5.88	4	1.87	15.8	38	52.2	12
13	47.8	15	61.8	5.92	4	2.05	20.5	48	85.0	13
14	34.0	14	41.1	6.05	4	2.10	28.8	69	137	14
15	35.8	14	43.1	5.18	8 S	3.88	34.1	71	209	15
16	33.8	13	38.0	4.48	30	11.8	48.2	73	304	16
17	28.8	12 S	29.8	4.87	45	18.8	46.3	37 S	148	17
18	27.3	12	28.3	8.18	80	39.6	44.2	19	72.8	18
19	28.1	12	27.1	11.8	36 S	39.1	41.0	13 S	46.1	19
20	27.1	12	28.1	51.8	82 S	278	37.3	11	36.4	20
21	33.6	13	37.7	88.8	322 S	2 380	34.4	8	26.7	21
22	32.2	12	33.4	73.8	187 S	1 190	33.7	10	28.1	22
23	28.8	12	30.0	80.1	262 S	' 740	37.8	14 S	46.8	23
24	24.1	12 S	25.0	188	836 S	15 200	42.0	40	148	24
25	18.1	12 S	18.7	157	513 S	6 980	50.4	99 S	431	25
26	12.7	10	11.0	108	181 S	1 470	51.8	191 S	1 020	26
27	11.8	9	9.25	86.1	85 S	632	88.7	174 S	1 080	27
28	9.73	8	8.73	88.7	53 S	280	78.1	184 S	1 120	28
29	8.34	7	8.04	41.8	32 S	78.5	79.2	205	1 400	29
30	7.87	8	4.08	33.8	12	35.1	77.3	239 S	1 800	30
31				28.9	10 S	25.8	78.2	222 S	1 640	31
TOTAL	1 191.04		10 184.30	1 108.18		30 407.28	1 172.1		9 818.8	TOTAL

B - ICE CONDITIONS

S - SAMPLE(S) COLLECTED THIS DAY

OLDMAN RIVER NEAR LETHBRIDGE - STATION NO. 05AD007

SUSPENDED SEDIMENT FOR 1987

DAY	SEP DAILY DISCHARGE (m^3/s)	SEP MEAN CONCENTRATION (mg/L)	SEP DAILY LOAD (t)	OCT DAILY DISCHARGE (m^3/s)	OCT MEAN CONCENTRATION (mg/L)	OCT DAILY LOAD (t)	DAILY DISCHARGE (m^3/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAY
1	73.1	210 S	1 330	68.7	1 040 S	5 270				1
2	72.5	205 S	1 280	18.8	120 S	172				2
3	80.8	195 S	1 380	14.4	38 S	47.3				3
4	84.6	158 S	1 180	18.7	40	68.1				4
5	84.5	189 S	1 180	37.5	49	118				5
6	84.2	150 S	1 090	27.4	40	84.7				6
7	82.7	138 S	985	28.1	29 S	72.8				7
8	81.5	128 S	904	30.8	25	88.5				8
9	82.1	127 S	901	30.5	22	58.0				9
10	80.2	126 S	882	35.4	20 S	61.2				10
11	88.8	124 S	951	43.8	24	90.8				11
12	85.7	112 S	828	41.5	18	84.7				12
13	80.9	105 S	734	38.1	15	49.4				13
14	78.5	101 S	685	35.5	15 S	46.0				14
15	76.5	94 S	621	39.8	17	58.5				15
16	83.5	88 S	635	36.6	14	48.7				16
17	77.6	70 S	471	37.9	14 S	45.8				17
18	62.4	36 S	183	36.3	12	37.6				18
19	42.8	18 S	86.6	35.4	11	33.8				19
20	32.1	13 S	36.1	34.9	10	30.2				20
21	25.5	10 S	22.0	34.1	8 S	28.5				21
22	22.2	8	15.3	30.0	8	20.7				22
23	18.5	7	12.0	27.8	7	18.8				23
24	18.3	7	11.1	28.0	6 S	14.5				24
25	18.0	8 S	12.4	27.5	5	11.8				25
26	20.2	14	24.4	27.0	5	11.7				26
27	20.8	30 S	53.4	27.2	5	11.8				27
28	20.0	57	98.5	26.8	5 S	11.8				28
29	20.6	118	210	24.8	5	10.7				29
30	33.1	610 S	1 740	24.2	6	12.5				30
31				21.2	7 S	12.8				31
TOTAL	1 733.8		18 527.8	970.7		6 691.6				TOTAL

S - SAMPLE(S) COLLECTED THIS DAY

OLDMAN RIVER NEAR LETHBRIDGE - STATION NO. 05AD007

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m^3/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAR	08 10:35	5.0	33.2	126	DH59	42	222														
MAR	12 14:10	4.0	34.4	126	DH59	65	241														
MAR	18 10:00	4.0	33.6	126	DH59	18	230														
MAR	25 09:40	5.0	30.1	126	DH59	11															
MAR	25 15:10	5.0	30.1	126	DH59	50	290														
MAR	31 13:50	9.0	29.4	126	DH59	18															
APR	07 10:00	9.0	87.2	126	DH59	367	254	25	42	65	80	90	95	98	100				5	53	42
APR	09 10:35	8.0	80.3	126	DH59	95															
APR	11 16:50	9.0	72.1	126	DH59	43															
APR	13 14:25	12.0	66.3	126	DH59	39	210														
APR	15 09:30	11.0	51.0	126	DH59	33															
APR	17 19:00	12.0	69.6	126	DH59	70															
APR	19 10:00	8.0	92.2	126	DH59	200															
APR	21 09:35	10.0	87.0	126	DH59	84	196														
APR	23 09:20	10.0	77.9	126	DH59	52															
APR	25 09:30	10.0	72.5	126	DH59	46															
APR	27 14:35	17.0	73.4	126	DH59	39	190														
APR	29 09:35	17.0	102	126	DH59	87															
APR	30 09:15	12.0	125	126	DH59	445															
APR	30 16:45	17.0	144	126	DH59	33															
MAY	01 09:15	14.0	190	126	DH59	1530	155	11	16	27	38	60	82	97	100				18	68	15
MAY	02 09:15	12.0	214	126	DH59	1290	138	12	14	26	34	53	72	92	100				28	58	14
MAY	02 09:30	9.0	221	126	DH59	985	141	11	16	28	37	56	71	84	98	100			29	56	15
MAY	04 12:15	11.0	192	126	DH59	649															
MAY	05 09:50	11.0	159	126	DH59	319															
MAY	06 09:20	13.0	148	126	DH59	178															
MAY	07 09:05	12.0	125	126	DH59	106															
MAY	08 09:00	13.0	137	126	DH59	115															
MAY	09 10:30	11.0	152	126	DH59	180	154														
MAY	10 09:45	10.0	140	126	DH59	144															
MAY	11 09:35	14.0	144	126	DH59	183															
MAY	12 09:35	15.0	121	126	DH59	109															
MAY	13 09:10	12.0	112	126	DH59	81															
MAY	14 10:00	15.0	126	126	DH59	124															
MAY	15 10:15	13.0	113	126	DH59	78															
MAY	16 10:10	12.0	124	126	DH59	93	163														
MAY	17 09:10	11.0	125	126	DH59	87															
MAY	18 09:40	13.0	119	126	DH59	68															
MAY	19 09:25	10.0	98.4	126	DH59	34															
MAY	21 09:35	10.0	88.3	126	DH59	19	176														
MAY	23 10:45	14.0	52.0	126	DH59	19															
MAY	27 09:35	14.0	35.8	126	DH59	13	218														
MAY	28 10:45	14.0	36.4	126	DH59	9															
JUN	03 09:30	14.0	73.0	126	DH59	26															
JUN	05 09:50	20.0	88.4	126	DH59	461	157	21	31	53	73	89	94	97	99	100			6	63	31
JUN	06 09:50	19.0	86.3	126	DH59	238	162	26	34	61	85	93	97	98	100				3	63	34
JUN	07 09:45	14.0	55.1	126	DH59	86															
JUN	09 09:15	16.0	46.8	126	DH59	23															
JUN	11 09:55	16.0	42.6	126	DH59	16	183														
JUN	17 09:15	12.0	28.5	126	DH59	13	187														
JUN	24 09:10	15.0	26.6	126	DH59	12	212														
JUN	25 15:20	20.0	15.6	29.0 X	DH48	12															
JUL	01 10:35	20.0	7.47	126	DH59	4	283														
JUL	08 10:15	18.0	5.03	126	DH59	5	264														
JUL	15 09:25	20.0	5.28	126	DH59	5	272														
JUL	15 11:45	21.0	5.28	17.0 X	DH48	4	237														
JUL	19 11:40	10.0	11.8	126	DH59	40															
JUL	20 09:00	15.0	17.2	126	DH59	29															
JUL	21 09:15	15.0	60.6	126	DH59	274	188	24	37	72	88	95	98	100					2	61	37
JUL	22 09:15	15.0	77.5	126	DH59	208															
JUL	23 09:00	16.0	87.4	126	DH59	134															
JUL	24 09:05	16.0	182	126	DH59	818	196	17	24	42	57	75	85	95	98	100			14	62	24
JUL	25 09:20	19.0	185	126	DH59	544	138	11	22	39	58	80	90	93	97	100			20	58	22
JUL	26 10:10	21.0	108	126	DH59	154															
JUL	27 15:25	20.0	82.4	126	DH59	88															
JUL	28 15:25	21.0	63.8	126	DH59	46															
JUL	29 09:50	21.0	42.0	126	DH59	20															
JUL	31 19:20	21.0	28.0	126	DH59	10															
AUG	02 10:10	18.0	25.8	126	DH59	10	198														
AUG	03 10:11	18.0	25.8	126	DH59	8															
AUG	04 09:00	18.0	21.8	126	DH59	9															
AUG	05 09:00	19.0	17.9	126	DH59	8															
AUG	10 09:30	15.0	14.1	126	DH59	22	246														
AUG	17 10:30	15.0	48.3	126	DH59	35	204														
AUG	18 09:45	12.0	41.3	126	DH59	13															
AUG	23 10:15	12.0	37.8	126	DH59	11															
AUG	26 15:05	12.0	55.3	126	DH59	109	182														
AUG	26 16:40	18.0	83.7	126	DH59	204															
AUG	27 09:15	17.0	88.8	126	DH59	172															
AUG	28 10:30	18.0	81.7	126	DH59	188	226														
AUG	30 15:50	18.0	77.2	126	DH59	245	180	11	28	52	64	87	88	98	100				1	71	28
AUG	31 13:40	20.0	76.1	126	DH59	219	193	19	31	61	82	95	97	98	100				3	68	31
SEP	01 13:40	22.0	73.1	126	DH59	212															
SEP	02 08:05		70.5	126	DH59	206															
SEP	03 09:15		80.9	126	DH59	203															
SEP	04 08:50		84.8	126	DH59	157															
SEP	05 09:00		84.5	126	DH59	160															
SEP	06 10:45		84.1	126	DH59	150															
SEP	07 09:10		82.5	126	DH59	134	182														
SEP	08 08:50		81.5	126	DH59	129															
SEP	09 09:00		81.3	126	DH59	128															
SEP	10 09:05	15.0	80.5	126	DH59	125															
SEP	11 09:15	17.0	88.8	126	DH59	126															
SEP	12 09:30	14.0	86.3	126	DH59	112															
SEP	13 09:00	16.0	81.2	126	DH59	105															
SEP	14 14:45	15.0	78.4	126	DH59	102	184														
SEP	15 08:55	14.0	77.4	126	DH59	94															
SEP	16 09:10	10.0	84.6	126	DH59	91															
SEP	17 15:05	14.0	77.4	126	DH59	89															
SEP	18 14:15	11.0	44.7	126	DH59	31	178														
SEP	19 09:30	11.0	44.4	126	DH59	18															
SEP	20 08:15	13.0	32.3	126	DH59	14															

NOTE : SINGLE VERTICAL LOCATED AT 126 METRES FOR 1987

VERTICAL SYMBOL(S): X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

CONTINUED

ALBERTA

OLDMAN RIVER NEAR LETHBRIDGE - STATION NO. 05AD007 (CONTINUED)

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m^3/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
SEP 21	14:35	17.0	24.5	126	DH59	10															
SEP 25	14:45	17.0	18.0	126	DH59	6	285														
SEP 27	10:45	13.0	30.8	126	DH59	28															
SEP 30	09:00	13.0	20.7	88.0 X	DH48	402	197	16	20	47	73	99	99	100					1	78	20
OCT 01	10:00	13.0	45.5	126	DH59	1430	218	18	36	83	85	99	99	99	100				1	83	36
OCT 01	11:15	15.0	39.8	126	DH59	938	210	26	43	70	92	99	99	99	100				1	56	43
OCT 02	11:45		18.4	126	DH59	73															
OCT 03	11:20	15.0	14.4	126	DH59	38															
OCT 07	09:40	10.0	39.8	126	DH59	39	208														
OCT 10	10:00	5.0	34.4	126	DH59	20															
OCT 14	10:00	5.0	35.8	126	DH59	15	187														
OCT 17	11:20	5.0	38.0	126	DH59	15															
OCT 21	09:20	4.0	34.2	126	DH59	10	195														
OCT 24	09:30	5.0	28.0	126	DH59	7															
OCT 28	09:05	5.0	27.1	126	DH59	5	206														
OCT 31	09:15	9.0	21.2	126	DH59	7															

NOTE SINGLE VERTICAL LOCATED AT 126 METRES FOR 1987

VERTICAL SYMBOL(S): X - NOT AT REGULAR SINGLE SAMPLING VERTICAL, FROM LEFT BANK

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)			MINIMUM (mg/L)			SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)			TOTAL FOR PERIOD (TONNES)	SUMMARY MAR-OCT MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1973	--CCCCCCCCCC	DUAL	2 310	JUN 03		6	NOV 06		173 000	JUN 02		3 180 000	13 000	13 000	---
1973	CCCCCCCCCCCC	DUAL	750	MAY 19		2	JAN 08	*	19 700	MAY 20		159 000	841	5 820	80.8
1974	CCCCCCCCCCCC	DUAL	1 750	JUN 18		4	OCT 02		103 000	JUN 18		1 710 000	5 970	5 870	51.9
1975	CCCCCCCCCCCC	DUAL	7 980	JUN 21	*	4	AUG 28		1 680 000	JUN 21	*	5 780 000	* 23 500	11 000	44.2
1976	CCCCCCCCCCCC	MANUAL	1 380	MAY 11		3	SEP 23		90 100	AUG 07		735 000	2 980	8 420	43.5
1977	CCCCCCCCCCCC	MANUAL	108	JUN 13		3	JAN 05		418	JUN 11		11 500	40.8	7 880	47.0
1978	CCCCCCCCCCCC	MANUAL	3 840	MAY 19		5	JAN 24		112 000	MAY 19		1 340 000	5 480	7 510	41.8
1979	CCCCCCCCCC--	MANUAL	2 290	MAY 28		8	AUG 01		103 000	MAY 28		844 000	3 650	7 080	39.0
1980	---CCCCCCCP-	MANUAL	5 950	MAY 27		7	AUG 27		418 000	MAY 27		1 010 000	4 100	8 730	36.5
1981	--CCCCCCCC-	MANUAL	4 870	MAY 23		5	SEP 07		468 000	MAY 23		2 490 000	10 100	7 080	31.4
1982	--CCCCCCCP-	MANUAL	1 430	MAY 28		4	MAR 08		33 900	MAY 28		508 000	2 070	6 810	31.1
1983	--CCCCCCC--	MANUAL	973	MAY 28		8	APR 12		22 400	MAY 28		134 000	548	6 100	31.8
1984	--CCCCCCCP-	MANUAL	304	JUN 1		6	APR 1		2 250	JUN 01		24 200	99.3	5 840	32.6
1985	---CCCCCC--	MANUAL	1 170	SEP 14		4	AUG 29		11 600	MAY 27		184 000	---	---	---
1986	--CCCCCCCP-	MANUAL	2 040	MAY 30		3	JUL 11		81 500	MAY 30		735 000	3 000	5 480	31.6
1987	--CCCCCCC--	MANUAL	1 630	MAY 1		4	JUL 1		28 100	MAY 01		206 000	840	5 150	31.7

DUAL - MANUAL AND AUTOMATIC SAMPLING MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

ALBERTA

OLDMAN RIVER NEAR WALDRON'S CORNER - STATION NO. 05AA023

SUSPENDED SEDIMENT FOR 1987

LOCATION: LAT 49 48 50 N LONG 114 11 00 W
DRAINAGE AREA 1 440 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

TOTAL SUSPENDED SEDIMENT LOAD 2 880 TONNES FOR THE PERIOD APR 01 TO NOV 05

REMARKS

DAY	APR DAILY DISCHARGE (m³/s)	APR MEAN CONCENTRATION (mg/L)	APR DAILY LOAD (t)	MAY DAILY DISCHARGE (m³/s)	MAY MEAN CONCENTRATION (mg/L)	MAY DAILY LOAD (t)	JUN DAILY DISCHARGE (m³/s)	JUN MEAN CONCENTRATION (mg/L)	JUN DAILY LOAD (t)	DAY
1	3.80 B	11	3.61	50.2	53 S	230	14.6	3	3.76	1
2	4.40 B	14	5.32	48.4	38 S	149	13.1	3	3.40	2
3	5.00 B	14	6.05	35.4	21 S	64.2	12.3	3 S	3.19	3
4	6.65	14	8.04	30.5	13 S	34.3	12.3	3	3.19	4
5	8.75	16	12.1	30.2	12 S	31.3	13.2	3	3.42	5
6	11.5	18 S	17.9	31.7	13 S	35.6	14.4	3	3.73	6
7	11.3	14 S	13.7	34.7	18 S	48.0	14.6	3	3.78	7
8	10.6	12	11.2	39.6	25 S	86.7	14.4	3	3.73	8
9	8.68	8 S	6.80	43.8	27	102	14.1	3	3.81	9
10	7.91	8 S	6.10	43.3	28 S	98.0	14.1	2	2.44	10
11	7.95	8 S	5.43	36.2	19	63.7	13.4	2	2.32	11
12	6.82	6 S	3.36	38.1	18	64.1	12.5	2	2.16	12
13	5.47	3	1.88	43.0	18 S	59.4	12.2	2	2.11	13
14	6.91	2 S	1.19	35.7	11 S	33.8	12.2	2	2.11	14
15	8.59	6 S	3.71	32.7	12 S	33.9	12.0	2	2.07	15
16	11.6	7	6.88	31.8	10	27.3	13.4	2	2.32	16
17	13.1	10 S	11.3	28.1	7 S	17.0	12.1	2	2.09	17
18	11.3	8 S	5.86	26.0	5 S	11.2	10.8	2 S	1.87	18
19	8.44	4	3.26	24.4	5	10.5	11.1	2 S	2.86	19
20	8.86	4 S	2.97	22.0	4 S	7.60	10.8	2 S	2.83	20
21	8.74	5 S	3.78	20.3	4	7.02	10.9	2	2.63	21
22	11.6	8	8.88	18.8	3	4.82	10.1	2	1.75	22
23	10.2	6	5.29	17.4	3 S	4.51	9.38	2	1.62	23
24	9.20	6 S	4.77	16.0	3	4.15	8.85	2 S	1.49	24
25	10.6	5 S	4.88	15.8	3	4.04	7.88	2	1.36	25
26	13.1	8 S	8.36	15.4	3	3.88	7.47	2	1.39	26
27	18.2	22 S	26.8	15.3	3 S	3.87	7.29	2	1.26	27
28	24.3	43 S	80.3	15.4	3	3.88	7.55	2	1.30	28
29	33.7	39 S	114	15.4	3 S	3.88	7.04	1	0.61	29
30	44.8	100 S	387	15.1	3	3.81	6.93	1	0.60	30
31				15.1	3	3.81				31
TOTAL	349.89		783.11	884.1		1 344.00	341.78		71.42	TOTAL

DAY	JUL DAILY DISCHARGE (m³/s)	JUL MEAN CONCENTRATION (mg/L)	JUL DAILY LOAD (t)	AUG DAILY DISCHARGE (m³/s)	AUG MEAN CONCENTRATION (mg/L)	AUG DAILY LOAD (t)	SEP DAILY DISCHARGE (m³/s)	SEP MEAN CONCENTRATION (mg/L)	SEP DAILY LOAD (t)	DAY
1	6.87	1	0.58	13.0	4	4.49	6.96	3 S	1.30	1
2	6.43	1	0.56	11.6	4	4.08	6.80	2	1.18	2
3	6.99	1 S	0.63	11.3	4	3.91	6.66	2	1.18	3
4	6.84	1	0.61	10.8	4	3.83	6.65	2	1.18	4
5	6.62	1	0.58	10.7	6	5.56	6.56	2	1.13	5
6	6.68	2	1.18	10.3	7	8.23	6.43	1	0.88	6
7	6.61	2	1.00	9.33	7	5.84	6.35	1	0.86	7
8	6.62	2 S	0.97	8.73	7	5.28	6.04	1	0.82	8
9	6.68	2	0.96	8.39	8	6.35	5.82	1 S	0.80	9
10	6.68	2	1.19	8.48	7 S	5.13	5.88	1	0.68	10
11	6.38	2	1.10	12.8	5	5.80	5.63	1	0.68	11
12	6.02	2	0.87	11.1	7	6.71	5.38	1	0.68	12
13	6.32	1	0.65	11.3	5	4.88	5.28	1	0.65	13
14	6.65	1 S	0.62	14.9	4	5.15	5.18	1	0.68	14
15	6.62	1	0.60	18.4	5	7.08	5.00	1	0.62	15
16	6.03	1	0.63	15.7	5 S	6.78	4.88	1	0.63	16
17	5.87	6	3.09	15.2	5	6.87	4.81	1	0.62	17
18	5.84	40	30.8	13.7	5	5.82	4.80	1	0.61	18
19	34.1	116 S	342	12.8	4	4.48	4.88	1	0.60	19
20	25.8	37 S	91.4	12.1	4	4.16	4.87	1	0.58	20
21	23.3	12 S	24.2	11.0	3	2.88	4.80	1	0.58	21
22	23.6	12	24.5	10.4	3	2.70	4.38	1	0.58	22
23	23.2	8 S	16.0	9.90	3	2.67	4.31	1	0.57	23
24	21.1	3	5.47	9.80	3	2.84	4.27	1	0.57	24
25	18.8	3	4.82	9.53	3	2.67	4.23	1	0.57	25
26	19.2	14 S	23.2	9.32	3	2.62	4.30	1	0.57	26
27	16.3	8	11.3	8.69	2	1.80	4.66	1	0.62	27
28	14.6	3	3.84	8.23	2	1.62	4.63	1	0.59	28
29	13.8	3	3.60	7.78	2	1.36	4.28	1	0.57	29
30	13.4	3 S	3.47	7.56	2	1.31	4.11	1	0.56	30
31	15.4	4	5.32	7.24	2	1.25				31
TOTAL	374.85		808.87	337.89		132.30	158.60		18.82	TOTAL

B - ICE CONDITIONS

S - SAMPLE(S) COLLECTED THIS DAY

ALBERTA

OLDMAN RIVER NEAR WALDRON'S CORNER - STATION NO. 05AA023

SUSPENDED SEDIMENT FOR 1987

DAY	OCT DAILY DISCHARGE (m^3/s)	OCT MEAN CONCENTRATION (mg/L)	OCT DAILY LOAD (t)	NOV DAILY DISCHARGE (m^3/s)	NOV MEAN CONCENTRATION (mg/L)	NOV DAILY LOAD (t)	DAY
1	4.02	1 S	0.35	3.47	1	0.30	1
2	3.98	1	0.34	3.46	1	0.30	2
3	3.93	1	0.34	3.42	1	0.30	3
4	3.87	1	0.33	3.40	1	0.29	4
5	3.86	1	0.33	3.40	1 S	0.29	5
6	3.85	1	0.33	3.29			6
7	3.83	1	0.33	3.08			7
8	3.82	1	0.33	2.87			8
9	3.83	1	0.33	3.06			9
10	3.86	1	0.31	3.54			10
11	3.77	1	0.33	3.40			11
12	3.72	1	0.32	3.31			12
13	3.71	1	0.32	3.26			13
14	3.84	1	0.31	3.24			14
15	3.71	1	0.32	2.84 S			15
16	3.67	1	0.32	2.60 S			16
17	3.68	1	0.32	2.00 S			17
18	3.64	1	0.30	2.40 S			18
19	3.18	1	0.27	3.90 S			19
20	3.28	1	0.28	4.30 S			20
21	3.90	1	0.34	3.90 S			21
22	3.47	1	0.30	3.80 S			22
23	3.31	1	0.29	3.60 S			23
24	3.72	1	0.32	3.30 S			24
25	3.83	1	0.31	3.24 S			25
26	3.85	1	0.31	3.90 S			26
27	3.45	1	0.30	2.60 S			27
28	3.44	1	0.30	2.30 S			28
29	3.45	1	0.30	1.90 S			29
30	3.47	1	0.30	2.30 S			30
31	3.47	1	0.30				31
TOTAL	113.18		9.78	93.77		1.48	TOTAL

DAY	DAILY DISCHARGE (m^3/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAY

B - ICE CONDITIONS

S - SAMPLE(S) COLLECTED THIS DAY

OLDMAN RIVER NEAR WALDRON'S CORNER - STATION NO. 05AA023

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m^3/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
APR 05	16:30	4.0	11.5	6.2	DH59	17	180														
APR 07	10:35	0.0	10.6	6.2	DH59	13															
APR 07	13:15	2.0	10.3	6.2	DH59	13															
APR 09	09:00	1.0	8.18	6.2	DH59	6															
APR 10	10:00	2.0	7.52	6.2	DH59	5															
APR 11	15:30	4.5	7.85	6.2	DH59	5															
APR 12	16:00	4.5	8.30	6.2	DH59	6															
APR 14	10:05	4.0	8.78	6.2	DH59	4	207														
APR 15	10:00	5.0	8.34	6.2	DH59	2															
APR 17	17:00	7.0	12.5	6.2	DH59	5															
APR 18	16:05	6.0	10.8	6.2	DH59	10															
APR 20	11:30	4.0	8.03	6.2	DH59	5	194														
APR 21	11:00	6.5	8.45	6.2	DH59	3															
APR 24	10:30	4.0	9.23	6.2	DH59	6															
APR 25	11:00	5.0	11.0	6.2	DH59	8															
APR 26	10:30	5.5	12.5	6.2	DH59	4	187														
APR 27	11:30	7.0	14.9	6.2	DH59	7															
APR 28	10:15	5.0	24.6	6.2	DH59	12															
APR 29	16:45	10.0	32.4	6.2	DH59	46															
APR 30	07:45	5.0	46.6	6.2	DH59	39															
MAY 01	17:30	8.0	49.3	6.2	DH59	116	131														
MAY 02	18:00	7.5	41.1	6.2	DH59	61															
MAY 03	12:00	5.0	34.8	6.2	DH59	32															
MAY 04	10:30	5.0	30.4	6.2	DH59	19															
MAY 05	10:15	6.0	30.4	6.2	DH59	13															
MAY 06	09:00	8.0	32.1	6.2	DH59	11															
MAY 07	11:00	7.0	34.3	6.2	DH59	13	136														
MAY 08	10:00	5.5	39.1	6.2	DH59	15															
MAY 10	10:30	5.5	42.6	6.2	DH59	25															
MAY 13	19:30	10.0	38.6	6.2	DH59	27															
MAY 14	10:30	8.0	35.8	6.2	DH59	14	135														
MAY 15	21:15	10.5	31.6	6.2	DH59	11															
MAY 17	11:00	7.0	28.2	6.2	DH59	11															
MAY 18	10:00	7.5	26.4	6.2	DH59	7															
MAY 20	19:00	8.0	21.0	6.2	DH59	5															
MAY 23	15:00	11.0	17.2	6.2	DH59	4	151														
MAY 27	09:10	7.0	15.4	6.2	DH59	3															
MAY 29	18:00	12.0	15.2	6.2	DH59	3	175														
JUN 03	17:00	14.0	12.4	6.2	DH59	3															
JUN 15	09:30	10.0	10.8	6.2	DH59	3	186														
JUN 20	15:30	14.0	11.0	6.2	DH59	2	186														
JUN 24	10:00	10.0	8.01	12.0	K DH48	3															
JUL 03	15:00	15.0	8.01	6.2	DH59	2	180														
JUL 08	13:00	14.0	5.84	6.2	DH59	1	182														
JUL 14	14:00	18.0	4.90	6.2	DH59	2	188														
JUL 18	12:00	8.0	38.7	6.2	DH59	1	182														
JUL 20	19:05	13.0	26.4	6.2	DH59	127	186														
JUL 21	14:30	11.0	23.0	6.2	DH59	20															
JUL 23	18:30	15.0	22.7	6.2	DH59	11															
JUL 26	17:40	15.0	18.1	6.2	DH59	4															
JUL 30	15:00	15.0	13.4	10.0	K DH48	17	182														
AUG 10	15:15	11.5	6.52	6.2	DH59	3	186														
AUG 18	15:30	11.5	15.8	6.2	DH59	7	177														
SEP 01	10:25	11.0	7.02	MID	DH48	5	172														
SEP 09	09:00	11.0	5.84	6.2	DH59	2	183														
OCT 01	10:20	8.0	4.01	11.0	K DH48	1	208														
NOV 05	12:35	5.0	3.40	10.0	K DH48	1	211														
						1	215														

NOTE : SINGLE VERTICAL LOCATED AT 6.2 METRES FOR 1987

VERTICAL SYMBOL(S): K - NOT AT REGULAR SINGLE SAMPLING VERTICAL, FROM LEFT BANK

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MAR-OCT MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1975	----PPPPPPP-	MANUAL	2 530	JUN 21 *	1	AUG 12	---	---	---	---	---	---
1976	---CCCCCCCC-	MANUAL	195	AUG 08	0	OCT 28 *	16 100	AUG 08 *	39 600	---	---	---
1977	CCCCCCCCCCCC	MANUAL	51	APR 08	0	JAN 05	86.6	MAY 11	1 380	5.40	5.40	---
1978	CCCCCCCCCCC-	MANUAL	220	MAR 30	1	DEC 11	887	MAY 22	17 000	69.1	37.3	85.4
1979	CCCCCCCCC--	MANUAL	138	MAY 27	0	JUL 17	1 100	MAY 27	7 810	30.9	35.1	82.7
1980	--CCCCCCCP-	MANUAL	103	MAY 28	0	APR 02	577	APR 30	6 270	25.8	32.8	40.6
1981	--CCCCCCC--	MANUAL	706	MAY 28	1	OCT 14	11 100	MAY 28	63 400 *	359	74.0	89.6
1982	---PCCCC---	MANUAL	43	MAY 28	1	JUL 28	241	JUN 16	4 010	---	---	---
1983	---CCCCCC--	MANUAL	99	MAY 25	1	SEP 25	338	MAY 28	2 160	---	---	---
1984	---PCCCC---	MANUAL	147	MAY 16	1	JUL 17	388	MAY 16	1 840	---	---	---
1985	---CCCCCC--	MANUAL	104	JUN 8	1	JUL 30	811	JUN 08	3 130	---	---	---
1986	--PCCCCCCP-	MANUAL	542	MAY 21	1	SEP 4	5 880	MAY 28	33 600	---	---	---
1987	---CCCCCCP-	MANUAL	127	JUL 19	1	JUL 3	387	APR 30	2 680	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

ALBERTA

PADDLE RIVER NEAR ROCHFORT BRIDGE - STATION NO. 07BB004

LOCATION: LAT 53 53 44 N LONG 115 02 27 W
DRAINAGE AREA: 825 km²
TYPE OF FLOW: REGULATED SINCE 1984
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE VERTICAL SAMPLING (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAY 22	12:20	11.0	0.022	MID	DIP	75															
JUN 18	15:00	17.0	1.15	MID	DH48	10	285														
JUL 13	16:30	20.0	0.024	MID	DIP	7															
AUG 14	10:10	14.0	0.135	MID	DIP	7	283														
SEP 09	11:20E	14.0	0.085	MID	DIP	10	289														
OCT 08	15:30E	10.0	0.085	MID	DIP	15	302														

NOTE : SINGLE VERTICAL IS UNDETERMINED FOR 1987

TIME SYMBOL: E - ESTIMATED

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1974	------PPPP--	MANUAL	422	JUL 14	10	OCT 31	---	---	---	---	---	---
1975	---PPPPPP---	MANUAL	1 270	MAY 05	5	JUN 17 *	---	---	---	---	---	---
1976	---PPPPPP---	MANUAL	882	APR 05	5	MAY 20	---	---	---	---	---	---
1977	---PPP-PP---	MANUAL	880	MAY 30	11	JUN 23	---	---	---	---	---	---
1978	---PPPPPP---	MANUAL	1 430	JUN 15	18	AUG 28	---	---	---	---	---	---
1979	---PPPPPP---	MANUAL	1 800	APR 24 *	8	AUG 20	---	---	---	---	---	---
1980	---PPPPPP---	MANUAL	918	JUN 25	18	OCT 14	---	---	---	---	---	---
1981	---PPPPPP---	MANUAL	78	APR 21	10	JUL 06	---	---	---	---	---	---
1982	-------PP-PP-	MANUAL	406	JUL 07	23	NOV 02	---	---	---	---	---	---
1983	----PP-P---	MANUAL	218	JUN 28	23	SEP 21	---	---	---	---	---	---
1985	----P-PPP--	MANUAL	303	AUG 15	14	OCT 7	---	---	---	---	---	---
1986	---PPPP--P-	MANUAL	84	NOV 6	10	AUG 26	---	---	---	---	---	---
1987	----PPPPP--	MANUAL	78	MAY 22	7	JUL 13	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

PEACE RIVER AT DUNVEGAN BRIDGE - STATION NO. 07FD003

LOCATION: LAT 55 55 09 N LONG 118 38 19 W
DRAINAGE AREA: 130 000 km²
TYPE OF FLOW: REGULATED SINCE 1967
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE VERTICAL SAMPLING (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAY 13	11:15	7.0	1790	MID	DH59	250	130														
JUL 07	10:55	12.0	2020	MID	DH59	70	124														
SEP 09	10:30	15.0	1380	MID	DH59	45	133														
SEP 23	13:35	13.0	1400	.300	D49	89	108														
OCT 07	11:35	10.0	1370	MID	DH59	47	109														

NOTE : SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1987

PEACE RIVER AT DUNVEGAN BRIDGE - STATION NO. 07FD003

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MAY-OCT MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1975	---PCCCCCC--	MANUAL	2 470	MAY 27	10	OCT 21	472 000	MAY 27 *	6 270 000 *	32 300	32 300	---
1976	---PPPPP----	MANUAL	804	MAY 05	17	APR 30	---	---	---	---	---	---
1977	-----P-P----	MANUAL	4 730	JUN 13 *	30	AUG 18	---	---	---	---	---	---
1978	----P---P---	MANUAL	242	MAY 23	21	SEP 13	---	---	---	---	---	---
1980	----------P--	MANUAL	115	OCT 15	15	OCT 15	---	---	---	---	---	---
1981	----------P--	MANUAL	23	OCT 22	23	OCT 22	---	---	---	---	---	---
1982	-----P-------	MANUAL	95	JUN 22	95	JUN 22	---	---	---	---	---	---
1983	---------P---	MANUAL	12	SEP 18	12	SEP 18	---	---	---	---	---	---
1984	--------P----	MANUAL	36	AUG 22	36	AUG 22	---	---	---	---	---	---
1985	-----P-P-P---	MANUAL	283	JUN 3	11	AUG 6	---	---	---	---	---	---
1986	------PPP---	MANUAL	47	JUL 8	8	SEP 12 *	---	---	---	---	---	---
1987	----P-P-PP--	MANUAL	250	MAY 13	45	SEP 9	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

PEACE RIVER AT PEACE POINT - STATION NO. 07XE001

LOCATION: LAT 59 08 50 N LONG 112 26 35 W
DRAINAGE AREA: 293 000 km²
TYPE OF FLOW: REGULATED SINCE 1968
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE VERTICAL SAMPLING (m)		TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)		DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAY 22	12:50	5.0	2810	381		D48	287		159	27	33	53	62	78	87	95	99	100			13	64	23
JUL 24	13:20	10.0	2140	381		D48	65		120	26	38	67	78	90	97	99	99	100			13	69	38
AUG 06	15:05	14.0	5810	381		D48	3970		270	23	35	45	60	79	93	98	100				7	58	35
AUG 07	10:05	18.0	9900	WELB	X	B1P	3030	C	188	30	37	55	69	89	98	99	100				1	82	17
AUG 08	14:10	10.0	8220	381		D48	8950		222	33	51	71	84	93	98	99	100				4	45	51
AUG 10	14:20	10.0	6820	381		D48	4810		204	33	51	72	85	92	97	99	100				3	48	51
AUG 12	10:20	10.0	5100	WELB	X	DH48	2930		175	40	57	78	95	97	100						0	43	57

NOTE : SINGLE VERTICAL LOCATED AT 381 METRES FOR 1987

CONCENTRATION SYMBOL(S): C - ORGANIC MATERIAL PRESENT

VERTICAL SYMBOL(S): X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MAY-SEP MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1967	----PCCCC---	MANUAL	2 060	MAY 24	30	SEP 21	2 530 000	JUN 07	82 700 000 *	---	---	---
1968	----CCCCC---	MANUAL	4 490	JUN 20	83	SEP 05	2 470 000	JUN 19	21 700 000	---	---	---
1969	----CCCCC---	MANUAL	1 030	MAY 15	135	JUL 04	677 000	MAY 07	13 900 000	142 000	142 000	---
1970	-P-PP-P--P--	MANUAL	807	MAY 08	42	FEB 23	---	---	---	90 900	116 000	22.0
1971	-----PCCC---	MANUAL	3 610	JUN 23	34	SEP 30	2 740 000	JUN 22 *	38 100 000	---	---	---
1972	P-PP-P-PPPP-	MANUAL	3 030	JUN 22	14	NOV 28 *	---	---	---	---	---	---
1973	-PPPP-PP-P--	MANUAL	1 180	MAY 10	27	MAR 27	---	---	---	---	---	---
1974	----P-PPPP--	MANUAL	2 190	MAY 08	51	SEP 28	---	---	---	---	---	---
1975	-----P------	MANUAL	273	JUN 03	251	JUN 28	---	---	---	---	---	---
1976	-----PPPPP--	MANUAL	1 410	JUL 14	138	SEP 17	---	---	---	---	---	---
1977	----P----P--	MANUAL	393	MAY 05	105	OCT 28	---	---	---	---	---	---
1978	----P-P-----	MANUAL	1 050	MAY 12	235	JUL 19	---	---	---	---	---	---
1979	-----PP-P---	MANUAL	625	JUN 21	108	SEP 21	---	---	---	---	---	---
1980	----PP-P-P--	MANUAL	1 420	JUN 27	48	OCT 21	---	---	---	---	---	---
1981	----PPP-P-P-	MANUAL	880	MAY 19	35	SEP 14	---	---	---	---	---	---
1982	----P-PPP---	MANUAL	3 230	AUG 10	74	SEP 30	---	---	---	---	---	---
1983	-----P--P-P-	MANUAL	244	JUN 13	87	NOV 03	---	---	---	---	---	---
1984	---PPP-P-P--	MANUAL	2 320	JUN 15	31	AUG 27	---	---	---	---	---	---
1985	----P-P--P--	MANUAL	453	MAY 28	78	OCT 29	---	---	---	---	---	---
1986	----P---P---	MANUAL	698	MAY 21	18	SEP 4	---	---	---	---	---	---
1987	----P-PP----	MANUAL	5 950	AUG 9 *	85	JUL 24	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

ALBERTA

PEACE RIVER AT PEACE RIVER - STATION NO. 07HA001

SUSPENDED SEDIMENT FOR 1987

LOCATION: LAT 56 14 41 N LONG 117 18 46 W
DRAINAGE AREA: 186 000 km²
TYPE OF FLOW: REGULATED SINCE 1967
TYPE OF GAUGE: RECORDING

TOTAL SUSPENDED SEDIMENT LOAD 48 700 000 TONNES FOR THE PERIOD APR 28 TO OCT 31

REMARKS:

DAY	APR DAILY DISCHARGE (m³/s)	APR MEAN CONCENTRATION (mg/L)	APR DAILY LOAD (t)	MAY DAILY DISCHARGE (m³/s)	MAY MEAN CONCENTRATION (mg/L)	MAY DAILY LOAD (t)	JUN DAILY DISCHARGE (m³/s)	JUN MEAN CONCENTRATION (mg/L)	JUN DAILY LOAD (t)	DAY
1	1 870 B			2 370	175	38 000	3 230	325 S	80 700	1
2	1 880 B			2 810	365	88 600	3 140	314	85 200	2
3	2 010 B			3 170	731 S	200 000	3 180	456 S	124 000	3
4	2 240 B			3 380	1 810	470 000	3 150	287 S	89 900	4
5	2 280 B			3 150	1 220 S	332 000	3 340	377	109 000	5
6	2 350 B			3 300	880	243 000	3 380	369 S	107 000	6
7	2 600 B			3 010	492 S	128 000	3 490	515	155 000	7
8	2 670 B			2 930	335 S	88 300	3 180	469 S	125 000	8
9	2 770 B			2 920	485	117 000	2 850	368	93 800	9
10	2 880 B			3 110	904	243 000	3 320	390	112 000	10
11	2 880 B			2 870	817	203 000	3 280	351 S	98 900	11
12	2 880 B			2 610	588 S	128 000	3 240	208 S	57 700	12
13	2 930			2 790	404 S	97 400	3 280	202 S	57 400	13
14	3 080			3 130	553	150 000	3 770	435 S	142 000	14
15	2 910			2 880	337 S	83 900	4 240	1 110	407 000	15
16	2 880			2 740	227	53 700	3 840	847 S	203 000	16
17	2 860			2 680	188	45 800	3 370	310 S	80 300	17
18	2 870			2 370	120	24 800	3 270	188 S	85 800	18
19	2 880			2 350	111 S	22 500	3 020	183	39 800	19
20	2 750			2 300	112 S	22 300	2 880	134	33 300	20
21	2 590			2 380	123	25 100	2 810	133	30 900	21
22	2 640			2 480	128 S	27 600	3 010	120	31 200	22
23	2 550			2 560	155	35 400	3 200	183 S	53 400	23
24	2 500			2 590	152	34 000	3 520	305	92 800	24
25	2 500			2 420	110	23 000	3 350	251	72 800	25
26	2 480			2 330	82 S	16 500	3 090	182	43 300	26
27	2 510			2 720	128	30 300	2 850	123	30 300	27
28	2 370	80 S	16 400	3 030	276	72 300	2 760	108	25 300	28
29	2 170	70	13 100	3 100	352	94 300	2 710	94	22 000	29
30	2 210	87	16 800	3 470	477	143 000	2 710	88 S	20 800	30
31				3 540	551	172 000				31
TOTAL	77 810		46 100	87 380		3 448 100	98 390		2 879 400	TOTAL

DAY	JUL DAILY DISCHARGE (m³/s)	JUL MEAN CONCENTRATION (mg/L)	JUL DAILY LOAD (t)	AUG DAILY DISCHARGE (m³/s)	AUG MEAN CONCENTRATION (mg/L)	AUG DAILY LOAD (t)	SEP DAILY DISCHARGE (m³/s)	SEP MEAN CONCENTRATION (mg/L)	SEP DAILY LOAD (t)	DAY
1	2 710	61	18 000	2 240	379	73 400	2 010	188	32 300	1
2	2 580	67	15 000	3 720	1 950	627 000	1 990	170	29 200	2
3	2 540	66	14 500	11 400	12 800	12 810 000	1 970	161	25 700	3
4	2 550	72 S	15 900	10 100	12 700	11 080 000	1 880	139	23 800	4
5	2 580	69	15 300	7 270	9 770	6 140 000	2 010	121	21 000	5
6	2 500	67 S	14 500	5 770	7 840	3 980 000	2 030	103	18 100	6
7	2 580	65 S	16 800	4 450	8 490	2 500 000	1 920	72	11 900	7
8	2 510	61 S	17 800	3 750	5 820 S	1 820 000	1 910	85 S	10 700	8
9	2 480	78	18 300	3 250	3 800	1 010 000	1 870	59	8 830	9
10	2 580	85	18 800	2 840	1 780	432 000	1 770	50	7 880	10
11	2 850	89 S	22 700	2 830	1 250 S	308 000	1 830	48	7 880	11
12	2 480	81	17 100	3 240	1 480	414 000	1 780	48	7 110	12
13	2 020	38	8 830	3 080	897 S	238 000	1 820	38	5 320	13
14	1 910	30	4 980	3 120	883	333 000	1 880	38 S	5 480	14
15	1 930	27	4 800	2 770	813 S	147 000	1 720	42	6 240	15
16	2 010	34	5 800	2 610	480	104 000	1 780	40	6 080	16
17	1 980	38 S	6 440	2 320	382 S	76 800	1 780	42	6 500	17
18	2 030	42	7 370	2 150	301 S	55 900	1 800	40	6 220	18
19	1 980	43	7 280	2 240	382 S	77 200	1 630	41	6 480	19
20	1 770	40 S	6 120	3 370	480	94 200	1 750	38	5 900	20
21	1 580	38	4 880	2 310	420	83 800	1 650	31	4 180	21
22	1 620	66	13 500	3 230	388	74 400	1 780	41 S	6 310	22
23	1 890	108	17 800	2 210	367	73 900	1 700	38	5 730	23
24	1 810	94	14 700	2 140	380 S	68 800	1 630	35	4 930	24
25	1 810	81 S	14 200	1 840	278	48 800	1 600	31 S	4 280	25
26	1 870	111 S	17 900	2 030	253 S	44 400	1 810	28	3 890	26
27	1 740	84	12 800	1 780	154 S	23 400	1 840	31	4 390	27
28	1 540	64 S	8 520	1 780	181	24 800	1 180	28 S	2 810	28
29	2 210	324 S	61 800	1 880	116	16 700	878	18	1 380	29
30	2 420	481 S	96 400	1 520	71	9 320	1 810	47	6 130	30
31	2 280	350	69 200	1 970	184 S	31 300				31
TOTAL	67 320		588 250	103 050		42 494 720	52 188		286 550	TOTAL

B - ICE CONDITIONS

S - SAMPLE(S) COLLECTED THIS DAY

PEACE RIVER AT PEACE RIVER - STATION NO. 07HA001

SUSPENDED SEDIMENT FOR 1987

DAY	OCT DAILY DISCHARGE (m^3/s)	OCT MEAN CONCENTRATION (mg/L)	OCT DAILY LOAD (t)		NOV DAILY DISCHARGE (m^3/s)	NOV MEAN CONCENTRATION (mg/L)	NOV DAILY LOAD (t)		DEC DAILY DISCHARGE (m^3/s)	DEC MEAN CONCENTRATION (mg/L)	DEC DAILY LOAD (t)	DAY
1	1 720	55	8 170									1
2	1 710	51	7 530									2
3	1 690	50	7 300									3
4	1 620	52	8 180									4
5	1 520	44	5 780									5
6	1 370	37 S	4 380									6
7	1 620	42	5 880									7
8	1 700	41	6 020									8
9	1 680	38	5 890									9
10	1 700	41	6 020									10
11	1 680	38	5 450									11
12	1 570	34	4 610									12
13	1 560	33	4 500									13
14	1 470	30	3 810									14
15	1 610	31	4 310									15
16	1 590	28	3 850									16
17	1 580	24 S	3 280									17
18	1 580	22	2 870									18
19	1 620	24	3 380									19
20	1 630	21	2 780									20
21	1 640	20	2 880									21
22	1 480	16 S	2 300									22
23	1 520	19	2 500									23
24	1 650	20	2 880									24
25	1 470	18	2 290									25
26	1 530	21	2 740									26
27	1 570	22	2 840									27
28	1 630	24	3 380									28
29	1 620	24	3 380									29
30	1 650	24	3 420									30
31	1 670	24	3 480									31
TOTAL	49 540		135 680									TOTAL

S - SAMPLE(S) COLLECTED THIS DAY

ALBERTA

PEACE RIVER AT PEACE RIVER - STATION NO. 07HA001

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
APR 28	11:50	8.0	2350	---	D74	98															
MAY 03	17:45	8.0	3180	---	D74	811	150	18	22	38	48	67	84	94	99	100			18	62	22
MAY 05	08:25	7.0	3200	---	D74	1340	148	27	35	53	66	83	93	97	100				7	57	36
MAY 07	08:25	7.0	3020	---	D74	526	144	18	26	40	52	73	88	93	99	100			14	60	26
MAY 08	08:25	8.0	3000	---	D74	368	133	23	30	48	63	70	78	88	97	100			21	48	30
MAY 12	15:15	12.5	2860	---	D74	539	138	16	25	37	52	69	81	90	98	100			19	56	25
MAY 12	19:35	9.0	2680	---	D74	482	148	20	28	41	63	88	80	91	99	100			20	54	26
MAY 13	06:30	8.0	2810	---	D74	387	127	20	25	40	60	88	75	85	96	100			25	50	25
MAY 15	08:00	8.0	2980	---	D74	385	138														
MAY 18	06:35	7.0	2350	---	D74	116															
MAY 20	07:05	6.5	2250	---	D74	115															
MAY 22	06:55	8.0	2380	---	D74	102	144														
MAY 26	21:50	12.0	2330	---	D74	88															
JUN 01	15:25	10.5	3210	---	D74	286	131														
JUN 03	22:00	12.0	2860	---	D74	412															
JUN 04	18:50	12.0	3330	---	D74	267															
JUN 05	19:00	12.0	3360	---	D74	373															
JUN 08	21:35	13.0	2930	---	D74	418															
JUN 11	18:00	14.5	3180	---	D74	289	128	12	16	30	42	60	73	82	95	100			27	57	16
JUN 12	20:00	13.0	3310	---	D74	215															
JUN 13	20:15	12.0	3240	---	D74	189															
JUN 14	21:20	12.5	4200	---	D74	783	120	8	11	17	24	42	65	85	98	100			38	54	11
JUN 16	21:55	12.0	3370	---	D74	484	132	7	11	22	34	61	78	88	98	100			24	65	11
JUN 17	21:35	12.0	3340	---	D74	240															
JUN 18	20:30	13.0	3180	---	D74	172															
JUN 23	21:30	13.0	3320	---	D74	245	140														
JUN 30	12:10	13.5	2730	---	D74	90	117														
JUL 04	21:50	18.0	2560	---	D74	72															
JUL 06	08:50	16.0	2510	---	D74	88															
JUL 07	19:05	15.0	2560	---	D74	90	123														
JUL 08	18:00	13.0	2490	---	D74	77															
JUL 11	22:00	13.0	2870	---	D74	103															
JUL 17	22:10	15.0	2010	---	D74	42															
JUL 20	21:10	18.0	1720	---	D74	40	132														
JUL 25	18:00	18.0	1630	---	D74	89															
JUL 26	18:45	19.0	1780	---	D74	102															
JUL 26	18:40	18.0	1670	---	D74	85	139														
JUL 29	17:00	18.0	2380	---	D74	390	167	17	24	48	65	86	91	96	98	100			8	67	24
JUL 30	14:00	17.0	2820	---	D74	578	157	31	41	61	72	88	94	98	99	100			6	53	41
AUG 08	21:00	13.0	3600	---	D74	4980	284	13	26	38	50	70	86	97	100				12	62	26
AUG 11	18:40	15.0	2880	---	D74	1270	194	23	34	48	56	73	88	97	100				12	54	34
AUG 13	17:15	15.0	3100	---	D74	897	184	23	31	45	58	73	82	89	98	100			18	51	31
AUG 15	18:30	15.0	2730	---	D74	510	172	7	11	22	33	58	75	87	98	100			25	64	11
AUG 17	19:45	14.0	2280	---	D74	332	172	22	27	44	50	61	83	80	97	100			31	42	27
AUG 18	18:35	13.5	2140	---	D74	284	184	13	19	34	45	58	69	81	97	100			31	52	17
AUG 19	19:40	14.0	2320	---	D74	447	172	17	22	37	48	63	75	82	97	100			25	53	22
AUG 24	16:35	14.0	2180	---	D74	370	180	18	28	48	58	72	79	85	97	100			21	53	26
AUG 26	20:20	15.0	2010	---	D74	231															
AUG 27	18:50	16.0	1780	---	D74	182															
AUG 31	17:30	12.0	2030	---	D74	208	143														
SEP 08	10:00	12.5	1920	---	D74	87	130														
SEP 14	20:00		1700	---	D74	40	130														
SEP 22	08:30	11.5	1820	---	D74	42	118														
SEP 25	20:00		1810	---	D74	27															
SEP 28	08:00	13.0	1210	---	D74	28	138														
OCT 08	10:40	9.5	1330	---	D74	37	123														
OCT 17	15:30	9.0	1630	---	D74	28	107														
OCT 22	13:00	8.0	1480	---	D74	17	104														

NOTE : SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1987

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)		SUMMARY : JAN-DEC MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1966	-----CCCCC--	MANUAL	3 800	AUG 30	15	OCT 28	1 080 000	AUG 30	12 800 000		---	---	---
1967	----PCCCCCC	MANUAL	2 210	MAY 19	10	SEP 19	1 440 000	JUN 04	31 800 000		---	---	---
1968	CCC-CCCCCC--	MANUAL	7 080	JUN 14	23	JAN 05	3 800 000	JUN 14	18 700 000		---	---	---
1969	CCC-CCCCCCC	MANUAL	4 800	MAY 01	11	DEC 10	1 830 000	MAY 02	12 800 000		---	---	---
1970	CCCCCCCCCCC	MANUAL	2 870	APR 18	6	SEP 21	827 000	JUN 05	18 500 000		45 200	45 200	---
1971	CCCCCCCCCCC	MANUAL	6 830	JUN 18	9	NOV 18	5 340 000	JUN 18	88 100 000		189 000	102 000	55.8
1972	CCCCCCCCCCC	MANUAL	5 090	JUN 18	3	MAR 17	14 600 000	JUN 14 *	76 300 000 *		208 000	137 000	35.2
1973	CCCCCCCCCCC	MANUAL	3 300	APR 13	2	SEP 11 *	1 120 000	APR 14	31 800 000		86 300	125 000	0.0
1974	CCCCCCCCCCC	MANUAL	6 310	APR 23	13	NOV 02	4 030 000	APR 28	59 000 000		182 000	132 000	0.0
1975	CCCCCCCCCCC	MANUAL	2 220	JUL 03	7	FEB 20	1 370 000	JUL 01	18 800 000		48 100	118 000	0.0
1976	CCCCCCCCCCC	MANUAL	5 000	AUG 19	10	JAN 23	3 330 000	AUG 19	51 900 000		142 000	121 000	0.0
1977	CCCCCCCCCCC	MANUAL	6 380	JUN 11	20	FEB 08	3 290 000	JUN 11	42 400 000		118 000	121 000	0.0
1978	-PP-CCCCC--P	MANUAL	3 020	JUL 13	2	SEP 05	794 000	JUN 17	11 100 000		---	---	---
1979	--P-PCC-PCP-	MANUAL	4 180	MAY 18	10	MAR 29	1 430 000	MAY 18	23 200 000		---	---	---
1980	--PPCCCCCC--	MANUAL	2 530	JUN 09	7	MAR 13	1 820 000	JUN 08	17 700 000		---	---	---
1981	PPP-CCCCCC--	MANUAL	7 410	MAY 08	12	JAN 27	1 710 000	MAY 09	18 800 000		---	---	---
1982	--P-CCCC--P-	MANUAL	9 140	AUG 04 *	25	NOV 01	4 780 000	JUL 19	40 300 000		---	---	---
1983	----CCPPCC--	MANUAL	4 840	JUN 22	28	SEP 22	1 890 000	JUL 19	28 300 000		---	---	---
1985	---PCCCCCCP-	MANUAL	924	MAY 30	13	NOV 4	278 000	MAY 23	6 090 000		---	---	---
1986	--P-CCCCCC--	MANUAL	3 740	MAY 28	13	OCT 30	1 580 000	MAY 28	22 800 000		---	---	---
1987	---PCCCCCC--	MANUAL	4 880	AUG 8	17	OCT 22	12 600 000	AUG 03	49 700 000		---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

PEIGAN CREEK NEAR PAKOWKI ROAD - STATION NO. 05AH041

LOCATION: LAT 49 34 50 N LONG 110 58 30 W
DRAINAGE AREA: 440 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAR 05	17:50	2.0	13.4	12.5 K	DIP	1070															
MAR 07	15:40	1.0	7.08	6.0 K	DH48	262															
APR 02	09:40	2.0	2.84	4.5 K	DIP	103	187	23	39	62	75	88	94	98	100				6	55	39
APR 09	12:40	8.0	0.523	2.0 K	DIP	19															

NOTE : SINGLE VERTICAL IS UNDETERMINED FOR 1987

VERTICAL SYMBOL(S): K - NOT AT REGULAR SINGLE SAMPLING VERTICAL,FROM LEFT BANK

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1976	--PPP-------	MANUAL	302	MAR 18	0	MAY 10 *	---	---	---	---	---	---
1978	--PPP-P-----	MANUAL	393	APR 08	4	MAY 30	---	---	---	---	---	---
1979	--PPP-------	MANUAL	441	MAR 15	10	MAY 02	---	---	---	---	---	---
1980	--PP--------	MANUAL	31	MAR 25	18	APR 09	---	---	---	---	---	---
1981	--P---------	MANUAL	22	MAR 10	22	MAR 10	---	---	---	---	---	---
1982	-----P------	MANUAL	127	JUN 04	127	JUN 04	---	---	---	---	---	---
1985	--PPP-------	MANUAL	1 320	APR 2 *	21	MAY 1	---	---	---	---	---	---
1986	-PPPPP--PP--	MANUAL	1 030	SEP 28	5	JUN 8	---	---	---	---	---	---
1987	--PP--------	MANUAL	1 070	MAR 5	19	APR 9	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH

* - EXTREME FOR PERIOD OF RECORD

PEMBINA RIVER AT JARVIE - STATION NO. 07BC002

LOCATION: LAT 54 27 05 N LONG 113 58 30 W
DRAINAGE AREA: 13 100 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
APR 22	09:00	7.0	37.3	10.0 K	DH48	118	185														
MAY 05	07:35	11.5	23.4	12.5 K	DH48	61	222														
JUN 09	09:05	16.0	22.3	38.5 K	DH48	47	234														
JUL 14	08:15	20.0	21.2	37.0 K	DH48	45	226														
AUG 18	08:00	15.5	61.4	14.0 K	DH59	207	170														
SEP 22	09:10	12.5	10.9	38.0 K	DH48	8	235														

NOTE : SINGLE VERTICAL IS UNDETERMINED FOR 1987

VERTICAL SYMBOL(S): K - NOT AT REGULAR SINGLE SAMPLING VERTICAL,FROM LEFT BANK

ALBERTA

PEMBINA RIVER AT JARVIE - STATION NO. 07BC002

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1976	---PP-P-P---	MANUAL	534	APR 14	19	SEP 24	---	---	---	---	---	---
1977	---PPPP-P---	MANUAL	3 120	MAY 11	80	SEP 28	---	---	---	---	---	---
1978	---PPP-PP-P-	MANUAL	812	JUN 18	31	AUG 31	---	---	---	---	---	---
1979	---PPPPPP---	MANUAL	1 800	APR 28	11	SEP 19	---	---	---	---	---	---
1980	---PPPPPPP--	MANUAL	2 500	APR 17 *	41	OCT 17	---	---	---	---	---	---
1981	---PPPPPPP--	MANUAL	223	APR 10	4	OCT 05	---	---	---	---	---	---
1982	-----P-P----	MANUAL	439	AUG 30	220	JUN 11	---	---	---	---	---	---
1983	----PPPP-P--	MANUAL	1 030	MAY 09	11	OCT 31	---	---	---	---	---	---
1984	----PPP-PP--	MANUAL	428	JUN 11	3	SEP 4 *	---	---	---	---	---	---
1985	---PPPPPP---	MANUAL	1 590	APR 10	14	JUL 30	---	---	---	---	---	---
1986	---PPPPPP-P-	MANUAL	309	JUN 2	46	SEP 22	---	---	---	---	---	---
1987	---PPPPPP---	MANUAL	207	AUG 18	8	SEP 22	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH

* - EXTREME FOR PERIOD OF RECORD

PEMBINA RIVER NEAR ENTWISTLE - STATION NO. 07BB002

LOCATION: LAT 53 36 18 N LONG 115 00 14 W
DRAINAGE AREA: 4 420 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)		SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER		INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
APR 14	15:45	1.0	26.9	B	WEBB	X	DIP	386															
APR 29	14:00	14.0	10.8		59.0	X	DH59	17	208														
MAY 27	13:50	17.0	30.6		52.0	X	DH59	82	194														
JUN 23	15:45	17.0	11.8		32.0	X	DH48	10	208														
JUL 28	15:50	28.0	14.1		58.0	X	DH59	15	180														
AUG 25	15:55	17.0	24.4		51.0	X	DH59	16	182														
SEP 29	15:40	15.0	7.24		46.0	X	DH48	15	209														
NOV 03	14:20	4.0	5.15		48.0	X	DH48	9	251														

NOTE : SINGLE VERTICAL IS UNDETERMINED FOR 1987

DISCHARGE SYMBOL(S): B - ICE CONDITIONS
VERTICAL SYMBOL(S): X - NOT AT REGULAR SINGLE SAMPLING VERTICAL, FROM LEFT BANK
X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1974	------PPPP--	MANUAL	17	JUL 23	2	OCT 28 *	---	---	---	---	---	---
1975	----PPPPP---	MANUAL	51	MAY 15	3	AUG 19	---	---	---	---	---	---
1976	---PPPPP----	MANUAL	23	AUG 19	7	JUL 19	---	---	---	---	---	---
1977	----PPPPP---	MANUAL	138	MAY 05	10	JUN 23	---	---	---	---	---	---
1978	----PPPP----	MANUAL	333	JUN 19	9	AUG 21	---	---	---	---	---	---
1979	-----PPPP---	MANUAL	11	JUN 11	6	AUG 13	---	---	---	---	---	---
1980	---PPPPP----	MANUAL	353	APR 14	10	AUG 18	---	---	---	---	---	---
1981	---PP-PP----	MANUAL	158	MAY 11	9	JUL 06	---	---	---	---	---	---
1982	-----PP-PP--	MANUAL	78	JUL 26	2	SEP 27	---	---	---	---	---	---
1983	---P-P-PPP--	MANUAL	199	JUN 27	2	SEP 28	---	---	---	---	---	---
1984	---P--P-P---	MANUAL	48	SEP 10	6	JUL 4	---	---	---	---	---	---
1985	---PPPPPPPP-	MANUAL	202	APR 12	3	JUL 18	---	---	---	---	---	---
1986	---PPPPPPPP-	MANUAL	3 140	JUL 21 *	7	JUN 11	---	---	---	---	---	---
1987	---PPPPPP-P-	MANUAL	388	APR 14	9	NOV 3	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH

* - EXTREME FOR PERIOD OF RECORD

PINE CREEK NEAR GRASSLAND - STATION NO. 07CA005

LOCATION: LAT 54 49 12 N LONG 112 48 34 W
DRAINAGE AREA: 1 450 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)		SINGLE SAMPLING VERTICAL (m)		TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
APR 08	09:00	1.0	10.5	B	12.0	K	DH59	77	187														
APR 14	10:00	0.5	5.65		9.0	K	DH59	87	282														
APR 22	13:15	7.0	3.30		4.0	K	DH48	40	263														
MAY 05	14:25	13.0	1.25		5.0	K	DH48	19	258														
JUN 10	13:25	17.5	1.75		4.9	K	DH48	42	269														
JUL 14	13:00	19.5	0.730		30LB	K	DIP	87	318														

NOTE : SINGLE VERTICAL IS UNDETERMINED FOR 1987

DISCHARGE SYMBOL(S): B - ICE CONDITIONS
VERTICAL SYMBOL(S): K - NOT AT REGULAR SINGLE SAMPLING VERTICAL,FROM LEFT BANK

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1974	--------PP---	MANUAL	61	AUG 13	48	SEP 17	---	---	---	---	---	---
1975	---P--PPP---	MANUAL	199	APR 21	16	APR 15	---	---	---	---	---	---
1976	---PPPPPPP--	MANUAL	883	APR 12 *	9	JUN 15	---	---	---	---	---	---
1977	-----PPPPPP--	MANUAL	84	JUN 07	21	AUG 10	---	---	---	---	---	---
1978	---PPPPPPP--	MANUAL	204	JUN 02	41	JUN 27	---	---	---	---	---	---
1979	-----PPPPPP--	MANUAL	118	MAY 02	15	OCT 31	---	---	---	---	---	---
1980	---PPPPPP---	MANUAL	92	SEP 25	23	JUN 04	---	---	---	---	---	---
1981	---PPPP-P---	MANUAL	68	APR 21	8	SEP 30 *	---	---	---	---	---	---
1982	------PPP----	MANUAL	38	AUG 04	13	JUN 07	---	---	---	---	---	---
1983	--------P----	MANUAL	20	AUG 03	20	AUG 03	---	---	---	---	---	---
1984	-----PPPPP---	MANUAL	45	JUN 7	8	SEP 6	---	---	---	---	---	---
1985	---PPPPP----	MANUAL	342	APR 8	8	AUG 27	---	---	---	---	---	---
1986	---PPPPPP---	MANUAL	43	JUN 3	20	MAY 6	---	---	---	---	---	---
1987	---PPPP-----	MANUAL	87	APR 14	19	MAY 5	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH

* - EXTREME FOR PERIOD OF RECORD

PONTON RIVER ABOVE BOYER RIVER - STATION NO. 07JF003

LOCATION: LAT 58 27 53 N LONG 116 15 23 W
DRAINAGE AREA: 3 440 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: MANUAL

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)		TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAY 04	14:10	7.0	188	WELB	K	DIP	8770															
MAY 07	09:25	7.0	88.8	21.0	X	DH59	4000	188	17	24	37	48	58	82	90	98	100			18	58	24
MAY 27	09:10	12.0	22.8	20.0	X	DH59	440	148	22	38	58	78	85	88	93	98	100			12	49	39
JUN 24	09:50	14.0	13.3	20.0	X	DH59	185	158														
JUL 28	17:10	25.0	13.7	20.0	X	DH59	124	148														
AUG 26	08:45	15.0	7.57	10.0	K	DH48	84	187														
SEP 23	16:35	13.0	9.68	11.0	K	DH48	84	181														

NOTE : SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1987

VERTICAL SYMBOL(S): K - NOT AT REGULAR SINGLE SAMPLING VERTICAL,FROM LEFT BANK
X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

ALBERTA

PONTON RIVER ABOVE BOYER RIVER - STATION NO. 07JF003

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY MEAN LOAD (TONNES)	SUMMARY HISTORICAL MEAN LOAD (TONNES)	SUMMARY STANDARD ERROR OF MEAN %
1975	---PP--------	MANUAL	1 880	APR 29	38	APR 22	---	---	---	---	---	---
1976	---PPPPPPP--	MANUAL	3 420	APR 28	18	OCT 27	---	---	---	---	---	---
1977	---P-PP-PP--	MANUAL	1 050	APR 28	13	OCT 08	---	---	---	---	---	---
1978	----PPPP-P--	MANUAL	459	MAY 09	20	AUG 03	---	---	---	---	---	---
1979	----PPPPP-P-	MANUAL	2 200	MAY 18	7	SEP 27	---	---	---	---	---	---
1980	-----PPP----	MANUAL	50	JUL 03	5	AUG 08 *	---	---	---	---	---	---
1981	----PP-PPP--	MANUAL	383	MAY 27	7	SEP 08	---	---	---	---	---	---
1982	----PPPP-P--	MANUAL	2 740	MAY 04	8	AUG 25	---	---	---	---	---	---
1983	----PP-PPP--	MANUAL	321	MAY 05	5	SEP 01	---	---	---	---	---	---
1984	----PPPPP---	MANUAL	5 070	JUL 4	27	MAY 4	---	---	---	---	---	---
1985	----PPPPPP--	MANUAL	726	JUL 23	23	OCT 30	---	---	---	---	---	---
1986	----PPPPP---	MANUAL	3 640	MAY 12	33	SEP 23	---	---	---	---	---	---
1987	----PPPPP---	MANUAL	5 770	MAY 4 *	84	AUG 25	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH

* - EXTREME FOR PERIOD OF RECORD

RAM RIVER NEAR THE MOUTH - STATION NO 05DC005

LOCATION: LAT 52 21 05 N LONG 115 25 33 W
DRAINAGE AREA: 1 880 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	PERCENT SILT	PERCENT CLAY
APR 29	15:10	5.0	10.8	20.0 X	DH48	105	259														
JUN 02	14:35	11.0	9.84	25.0 X	DH48	10	291														
JUN 29	18:35	21.0	10.5	28.0 X	DH48	11	286														
JUL 30	16:30	17.0	24.8	16.0 X	DH48	318	233	30	39	65	78	92	95	98	100				5	56	39
AUG 25	13:40	10.0	23.8	20.0 X	DH48	20	234														
OCT 05	18:00	5.0	9.78	23.0 X	DH48	3	320														

NOTE : SINGLE VERTICAL IS UNDETERMINED FOR 1987

VERTICAL SYMBOL(S). X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY MEAN LOAD (TONNES)	SUMMARY HISTORICAL MEAN LOAD (TONNES)	SUMMARY STANDARD ERROR OF MEAN %
1976	---PPPPPP---	MANUAL	386	AUG 12	12	APR 26	---	---	---	---	---	---
1977	---PPPPPP---	MANUAL	242	MAY 26	11	SEP 15	---	---	---	---	---	---
1978	---PPPPPPP--	MANUAL	384	MAY 23	4	SEP 26	---	---	---	---	---	---
1979	----PPPPPP--	MANUAL	43	MAY 22	0	AUG 14 *	---	---	---	---	---	---
1980	---PPPPPPP--	MANUAL	1 500	JUN 08	8	OCT 29	---	---	---	---	---	---
1981	---PPP-PPP--	MANUAL	142	MAY 28	1	SEP 28	---	---	---	---	---	---
1982	----PPP-PP--	MANUAL	885	JUL 06	1	SEP 14	---	---	---	---	---	---
1983	----PPPPP---	MANUAL	1 330	MAY 30	2	SEP 27	---	---	---	---	---	---
1984	---PPPPPP---	MANUAL	39	JUN 20	1	AUG 20	---	---	---	---	---	---
1985	-----PPPP---	MANUAL	184	AUG 23	18	JUL 18	---	---	---	---	---	---
1986	----PPPPP-P-	MANUAL	3 480	MAY 27 *	4	SEP 23	---	---	---	---	---	---
1987	---P-PPP-P--	MANUAL	318	JUL 30	3	OCT 5	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH

* - EXTREME FOR PERIOD OF RECORD

LOCATION: LAT 51 28 08 N LONG 112 42 30 W
DRAINAGE AREA: 24 600 km²
TYPE OF FLOW: REGULATED SINCE 1983
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
APR 07	11:15	2.0	134	72.0	DH59	1080	320	14	20	29	38	48	58	86	88	99	100		44	36	20
APR 27	12:00	12.0	42.2	72.0	DH59	19	318														
MAY 26	11:45	16.0	28.1	72.0	DH59	6	262														
JUN 22	11:25	18.0	55.8	72.0	DH59	53	238														
JUL 21	00:00	17.0	48.9	72.0	DH59	170	206														
AUG 10	11:00	16.0	52.5 M	40.0 X	DH59	19	198														
SEP 09	11:45	16.0	55.1	72.0	DH59	29	209														
OCT 05	10:45	10.0	28.5	72.0	DH59	89	211														
NOV 02	10:45	5.0	30.5	72.0	DH59	12	249														

NOTE : SINGLE VERTICAL LOCATED AT 72.0 METRES FOR 1987

DISCHARGE SYMBOL(S): M - DAILY MEAN
VERTICAL SYMBOL(S): X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MAR-OCT MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1975	-PPCCCCCCCCC	MANUAL	4 750	MAY 05	0	FEB 21 *	118 000	APR 21	807 000	---	---	---
1976	PPPCCCCCCPP	MANUAL	2 880	JUN 14	3	OCT 01	18 400	APR 13	184 000	---	---	---
1977	CCCCCCCCCCC	MANUAL	5 670	MAY 23	4	DEC 16	58 800	MAY 23	382 000	1 590	1 590	---
1978	CCCCCCCCCC	MANUAL	7 780	SEP 08	2	JAN 05	40 100	SEP 04	554 000	2 870	2 130	25.4
1979	CCCCCCCCC--	MANUAL	3 970	JUL 23	2	AUG 19	18 000	JUL 23	110 000	447	1 570	40.9
1980	--CCCCCCCC--	MANUAL	5 520	JUL 29	2	MAY 18	49 500	AUG 06	533 000	3 400	2 030	31.8
1981	--PCCCCCCP-	MANUAL	17 800	MAY 07 *	4	OCT 04	145 000	AUG 01 *	1 220 000 *	---	---	---
1982	--CCCCCCC--	MANUAL	3 330	JUL 03	5	SEP 23	76 300	JUL 08	558 000	3 500	2 320	25.0
1983	---CCCCCC--	MANUAL	5 330	JUL 08	1	OCT 11	54 000	JUL 08	423 000	---	---	---
1984	---CCCCCC--	MANUAL	2 390	JUN 10	6	APR 30	7 170	JUN 08	110 000	---	---	---
1985	---PPPPPPP--	MANUAL	1 450	APR 5	5	JUL 16	---	---	---	---	---	---
1986	---PPPPPPPP-	MANUAL	1 320	AUG 12	6	APR 21	---	---	---	---	---	---
1987	---PPPPPPPP-	MANUAL	1 080	APR 7	5	MAY 25	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

RED DEER RIVER AT RED DEER - STATION NO. 05CE002

LOCATION: LAT 52 16 38 N LONG 113 48 57 W
DRAINAGE AREA: 11 800 km²
TYPE OF FLOW: REGULATED SINCE 1983
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAY 06	08:30	8.0	47.4	15.0	DH59	10	266														
JUN 02	08:30	10.0	23.1	15.0	DH59	14	252														
JUN 30	08:40	18.0	28.3	15.0	DH59	7	233														
JUL 28	09:00	19.0	89.6	WELB K	DIP	14	213														
SEP 02	09:00	18.0	47.8	15.0	DH59	8	209														
SEP 29	12:00	12.0	30.2	15.0	DH59	6	217														
NOV 05	09:30	4.0	20.2	15.0	DH59	4	236														

NOTE : SINGLE VERTICAL LOCATED AT 15.0 METRES FOR 1987

VERTICAL SYMBOL(S): K - NOT AT REGULAR SINGLE SAMPLING VERTICAL, FROM LEFT BANK

ALBERTA

RED DEER RIVER AT RED DEER - STATION NO. 05CC002

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : APR-OCT MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1970	------PP------	MANUAL	103	JUN 04	12	JUL 17	---	---	---	---	---	---
1971	--CCCCCCCCCC	MANUAL	1 480	APR 15	0	OCT 12 *	41 400	APR 15	274 000	1 270	1 270	---
1972	CCCCCCCCCCCC	MANUAL	2 750	JUN 28	0	AUG 28	154 000	JUN 26 *	506 000	2 340	1 810	28.8
1973	CCCCCCCCCCCC	MANUAL	1 380	MAY 28	3	SEP 08	31 700	MAY 28	222 000	1 010	1 540	26.4
1974	--CCCCCCCC--	MANUAL	1 480	JUN 18	1	OCT 28	28 800	JUN 18	382 000	1 890	1 570	18.4
1975	--PCCCCCCC--	MANUAL	428	APR 21	1	APR 14	7 480	APR 20	55 800	285	1 310	28.2
1976	--CCCCCCCCC-	MANUAL	836	AUG 11	1	OCT 30	7 140	AUG 11	50 400	233	1 130	29.4
1977	---CCCCCCCCC	MANUAL	253	MAY 17	1	DEC 14	3 800	APR 08	52 000	242	1 000	30.8
1978	CCCCCCCCCCC	MANUAL	1 370	JUN 07	0	NOV 07	21 800	JUN 07	131 000	589	950	28.8
1979	PP-CCCCCCCP-	MANUAL	788	MAY 28	2	SEP 14	7 480	MAY 28	47 500	232	889	29.1
1980	--CCCCCCCC--	MANUAL	1 140	APR 15	4	MAR 27	15 900	APR 15	142 000	882	848	28.8
1981	---CCCCCCC--	MANUAL	3 080	JUL 31 *	4	APR 15	148 000	JUL 31	740 000 *	3 480	1 080	26.8
1982	---CCCCCCC--	MANUAL	880	APR 23	2	OCT 25	15 500	JUL 06	208 000	983	1 080	26.8
1983	---CCCCCCC--	MANUAL	908	APR 28	2	AUG 13	10 400	APR 27	48 400	228	1 010	26.9
1984	--PCCCCCCC--	MANUAL	82	SEP 28	2	JUN 5	235	SEP 23	5 350	29.0	940	27.8
1985	---PPPPPPPP-	MANUAL	143	SEP 13	3	MAY 28	---	---	---	---	---	---
1986	---PPPPPPPP-	MANUAL	524	MAY 21	3	NOV 4	---	---	---	---	---	---
1987	-----PPP-P-P-	MANUAL	14	JUN 2	4	NOV 5	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

RED DEER RIVER BELOW BURNT TIMBER CREEK - STATION NO. 05CA009

LOCATION: LAT 51 38 02 N LONG 115 01 00 W
DRAINAGE AREA: 2 250 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.063	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
APR 23	10:45	2.0	7.12	14.0 X	DIP	3															
MAY 25	12:20	7.0	18.5	17.0 X	DH48	3	236														
JUN 24	13:00	10.0	28.4	17.0 X	DH48	11	205														
JUL 22	11:15	8.0	80.0	17.0 X	D49	486	184	10	14	38	63	73	85	93	99	100			15	71	14
AUG 12	11:35	12.0	38.5	18.0 X	D49	8	204														
SEP 11	12:25	10.0	28.6	20.0 X	DH48	5	218														
OCT 07	12:05	9.0	14.8	18.0 X	DH48	3	240														
NOV 04	09:10	3.0	10.4	15.0 X	DH48	3	248														

NOTE : SINGLE VERTICAL IS UNDETERMINED FOR 1987

VERTICAL SYMBOL(S): K - NOT AT REGULAR SINGLE SAMPLING VERTICAL, FROM LEFT BANK
X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1974	------P-P----	MANUAL	43	JUL 28	6	SEP 03	---	---	---	---	---	---
1975	----P-P-----	MANUAL	24	JUL 31	3	MAY 28	---	---	---	---	---	---
1976	----PPP-----	MANUAL	386	JUL 01	3	MAY 18	---	---	---	---	---	---
1977	-----PPP----	MANUAL	178	JUN 02	7	AUG 10	---	---	---	---	---	---
1978	----PPP-PP--	MANUAL	730	JUN 05	4	SEP 05	---	---	---	---	---	---
1979	----PPPP-P--	MANUAL	342	AUG 21	2	OCT 02	---	---	---	---	---	---
1980	----PPPPP---	MANUAL	81	JUN 09	3	SEP 25	---	---	---	---	---	---
1981	----PP-PP---	MANUAL	107	AUG 25	3	SEP 29	---	---	---	---	---	---
1982	----P-PPPP--	MANUAL	15	JUL 06	1	OCT 26	---	---	---	---	---	---
1983	---PP-PPP---	MANUAL	288	MAY 30	0	SEP 27 *	---	---	---	---	---	---
1984	----P-PP-P--	MANUAL	33	AUG 3	3	JUL 10	---	---	---	---	---	---
1985	---PPPPPPP--	MANUAL	81	SEP 14	3	APR 28	---	---	---	---	---	---
1986	---PPPPPPPP-	MANUAL	1 080	MAY 28 *	1	APR 8	---	---	---	---	---	---
1987	---PPPPPPPP-	MANUAL	488	JUL 22	2	OCT 7	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

RED DEER RIVER NEAR BINDLOSS - STATION NO. 05CK004

LOCATION: LAT 50 54 10 N LONG 110 17 50 W
DRAINAGE AREA: 44 700 km²
TYPE OF FLOW: REGULATED SINCE 1908
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
APR 06	13:00	3.0	142	42.0	DH59	1840	329	9	22	40	43	52	80	85	88	89	100		40	28	32
APR 27	11:53	12.0	44.4	42.0	DH59	87	356														
JUN 01	11:35	11.0	37.7	42.0	DH59	148	358														
JUN 22	14:25	18.0	58.1	42.0	DH59	1780	306	3	8	59	97	98	98	98	99	100			3	90	8
JUL 20	11:30	16.0	61.0	42.0	DH59	138	336														
AUG 10	15:40	15.0	68.5	42.0	DH59	183	321														
SEP 08	11:33	16.0	58.2	42.0	DH59	3360	278	15	73	93	99	99	99	100					1	21	78
SEP 28	12:25	12.0	33.6	42.0	DH59	45	275														
NOV 02	11:50	5.0	21.3	42.0	DH59	13	295														

NOTE : SINGLE VERTICAL LOCATED AT 42 METRES FOR 1987

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MAR-OCT MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1965	----CCCCCCCC	MANUAL	11 800	JUL 05 *	35	NOV 03	298 000	JUL 07	1 850 000	---	---	---
1967	CCCCCCCCCCCC	MANUAL	5 000	JUN 04	2	JAN 24	200 000	JUN 04	2 410 000	8 810	8 810	---
1968	CCCCCCCCCCCC	MANUAL	5 890	JUL 25	11	DEC 10	70 300	JUL 25	843 000	3 430	6 620	46.3
1969	CCCCCCCCCCCC	MANUAL	6 840	APR 05	1	MAR 11 *	377 000	APR 05	4 710 000	19 200	10 800	42.4
1970	CCCCCCCCCCCC	MANUAL	11 200	JUN 18	11	MAR 19	345 000	JUN 18	2 930 000	11 900	11 100	29.3
1971	CCCCCCCCCCCC	MANUAL	7 710	APR 16	14	NOV 16	517 000	APR 16 *	4 610 000	18 800	12 800	23.4
1972	CCCCCCCCCCCC	MANUAL	4 380	JUN 29	8	NOV 27	195 000	JUN 29	1 800 000	8 500	11 800	22.6
1973	CCCCCCCCCCCC	MANUAL	8 470	JUN 19	7	FEB 23	122 000	JUN 19	1 870 000	6 400	10 900	21.4
1974	CCCCCCCCCCCC	MANUAL	8 700	APR 16	5	FEB 19	344 000	APR 18	5 280 000 *	21 500	12 200	19.8
1975	CCCCCCCCCCCC	MANUAL	6 790	APR 24	12	DEC 17	155 000	APR 24	1 140 000	4 850	11 400	20.1
1976	CCCCCCCCCCCC	MANUAL	8 850	AUG 19	4	JAN 26	136 000	AUG 19	887 000	3 810	10 800	20.7
1977	CCCCCCCCCCCC	MANUAL	8 020	SEP 24	7	FEB 07	84 800	SEP 23	885 000	2 370	9 830	21.8
1978	CCCCCCCCCCCC	MANUAL	6 380	SEP 14	11	DEC 13	88 900	APR 02	1 840 000	9 880	9 870	20.4
1979	CCCCCCCCCC--	MANUAL	2 120	AUG 08	10	JAN 02	10 300	AUG 08	308 000	1 240	8 930	21.3
1980	--CCCCCCCC--	MANUAL	6 070	AUG 10	35	MAY 12	98 800	APR 15	1 850 000	7 880	8 830	20.0
1981	--PCCCCCCC-	MANUAL	8 440	MAY 11	21	OCT 27	128 000	AUG 04	1 710 000	---	---	---
1982	---CCCCCCP-	MANUAL	5 080	SEP 28	86	SEP 18	83 800	JUL 08	1 780 000	---	---	---
1983	--PCCCCCC--	MANUAL	3 340	JUL 08	18	OCT 31	42 300	JUL 12	508 000	---	---	---
1984	--PCCCCCC--	MANUAL	6 810	SEP 14	48	JUL 24	18 100	SEP 15	388 000	---	---	---
1985	---PPPPPPP--	MANUAL	2 950	SEP 18	82	JUL 15	---	---	---	---	---	---
1986	--PPPPPPPPP-	MANUAL	2 440	JUL 22	83	APR 15	---	---	---	---	---	---
1987	---P-PPPP-P-	MANUAL	3 380	SEP 8	13	NOV 2	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

SAND RIVER NEAR THE MOUTH - STATION NO. 06AB001

LOCATION: LAT 54 26 15 N LONG 111 11 05 W
DRAINAGE AREA: 4 810 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAY 05	15:20	13.5	27.0	WELB K	DIP	47															
JUN 04	14:15	17.0	18.8	18.0 K	DIP	48															
AUG 18	13:00	17.0	4.11	13.0 K	DIP	10	207														

NOTE : SINGLE VERTICAL IS UNDETERMINED FOR 1987

VERTICAL SYMBOL(S): K - NOT AT REGULAR SINGLE SAMPLING VERTICAL, FROM LEFT BANK

ALBERTA

SAND RIVER NEAR THE MOUTH - STATION NO. 06AB001

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1984	---PPP-P----	MANUAL	180 JUN 7 *		2 AUG 30		---	---	---	---	---	---
1985	---PP-P--P--	MANUAL	80 APR 23		8 OCT 1 *		---	---	---	---	---	---
1986	-----P-P----	MANUAL	82 AUG 8		18 JUN 2		---	---	---	---	---	---
1987	-----PP-P----	MANUAL	48 JUN 4		10 AUG 18		---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH

* - EXTREME FOR PERIOD OF RECORD

SHEEP RIVER AT BLACK DIAMOND - STATION NO. 05BL014

LOCATION: LAT 50 41 14 N LONG 114 14 34 W
DRAINAGE AREA: 695 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAY 06	10:20	7.5	5.39	8.6 X	DIP	20	181														
JUN 05	11:55	13.5	4.68	5.0 X	DH48	7	197														
JUN 23	09:35	9.5	4.89	5.0 X	DH48	7	183														
JUL 21	15:00	8.0	19.3	5.0 X	DH48	187	180														
AUG 27	09:25	10.5	4.85	7.2 X	DH48	3	198														
OCT 05	09:35	5.0	2.05	5.5 X	DIP	2															
NOV 05	09:10	2.4	1.81	30.0 X	DIP	2															

NOTE : SINGLE VERTICAL IS UNDETERMINED FOR 1987

VERTICAL SYMBOL(S): X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1974	------PP-PP-	MANUAL	4 JUL 30		1 OCT 01		---	---	---	---	---	---
1975	---P-PPPP>--	MANUAL	180 JUN 26		1 SEP 30		---	---	---	---	---	---
1976	---PPPPPP---	MANUAL	2 730 AUG 05 *		0 SEP 24 *		---	---	---	---	---	---
1977	---PPPPPP---	MANUAL	80 SEP 26		1 JUL 25		---	---	---	---	---	---
1978	----PP-PP---	MANUAL	727 JUN 06		3 SEP 25		---	---	---	---	---	---
1979	---PPPPPP---	MANUAL	31 MAY 30		0 AUG 20		---	---	---	---	---	---
1980	---PP-PP-P--	MANUAL	1 340 MAY 28		1 OCT 05		---	---	---	---	---	---
1981	--PPPPPPP---	MANUAL	1 410 MAY 28		5 SEP 28		---	---	---	---	---	---
1982	---PPPPPP---	MANUAL	137 MAY 28		3 AUG 23		---	---	---	---	---	---
1983	----PPPPP---	MANUAL	129 MAY 30		1 AUG 31		---	---	---	---	---	---
1984	----PP-PP---	MANUAL	81 JUN 9		3 SEP 5		---	---	---	---	---	---
1985	----PPPPP---	MANUAL	1 620 SEP 13		11 JUL 17		---	---	---	---	---	---
1986	--PPPPPPP---	MANUAL	385 MAY 22		3 AUG 27		---	---	---	---	---	---
1987	----PPPP-PP-	MANUAL	187 JUL 21		2 OCT 5		---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH

* - EXTREME FOR PERIOD OF RECORD

SIMONETTE RIVER NEAR GODDWIN - STATION NO. 07GF001

LOCATION: LAT 55 08 30 N LONG 118 10 30 W
DRAINAGE AREA: 5 080 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)		SINGLE SAMPLING VERTICAL (m)		TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002 .004 .008 .016 .031 .062 .125 .250 .500 1.00 2.00	PERCENT SAND SILT CLAY
APR 27	14:50	12.0	21.8		78.0	X	DH48	49	196		
JUN 24	09:30	16.0	14.7		30.0	X	DH48	28	235		
AUG 08	16:50	17.0	310	V	WERB		DIP	3110			
SEP 03	11:30	15.0	32.2		90.0	X	DH59	103			
SEP 30	11:15	14.0	11.0		25.0	X	DH48	28	307		
OCT 28	09:15	5.0	7.35		24.0	X	DH48	24	286		

NOTE : SINGLE VERTICAL IS UNDETERMINED FOR 1987

DISCHARGE SYMBOL(S): V - DAILY MEAN; MANUAL GAUGE
VERTICAL SYMBOL(S): K - NOT AT REGULAR SINGLE SAMPLING VERTICAL,FROM LEFT BANK
X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)				MINIMUM (mg/L)			SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1974	---------P-P-	MANUAL	17	NOV	07		11	SEP	18	---	---	---	---	---	---
1975	---PPPPPPP--	MANUAL	972	APR	29		4	AUG	18	---	---	---	---	---	---
1976	---PPPP-----	MANUAL	4 300	APR	08		24	JUL	28	---	---	---	---	---	---
1977	---PPPP-PP--	MANUAL	2 880	APR	11		18	OCT	26	---	---	---	---	---	---
1978	----PPPPPP--	MANUAL	1 200	MAY	02		8	AUG	30	---	---	---	---	---	---
1979	---PPPPPPP--	MANUAL	3 730	JUN	18		8	OCT	30	---	---	---	---	---	---
1980	---P-PPPP---	MANUAL	3 480	JUN	07		40	JUL	24	---	---	---	---	---	---
1981	---P--P-PP--	MANUAL	467	APR	28		3	SEP	04	---	---	---	---	---	---
1982	----P-PP-P--	MANUAL	2 880	JUL	15		42	OCT	05	---	---	---	---	---	---
1983	---PPPPPP---	MANUAL	7 230	JUL	18	*	37	AUG	30	---	---	---	---	---	---
1984	---P-PPPP---	MANUAL	738	APR	17		9	AUG	28	---	---	---	---	---	---
1985	---PPPPPPP--	MANUAL	909	APR	18		3	JUL	23	---	---	---	---	---	---
1986	---PPPPPPP--	MANUAL	630	MAY	22		7	SEP	24	---	---	---	---	---	---
1987	---P-P-PPP--	MANUAL	3 110	AUG	8		24	OCT	28	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH

* - EXTREME FOR PERIOD OF RECORD

ALBERTA

SLAVE RIVER AT FITZGERALD - STATION NO. 07NB001

SUSPENDED SEDIMENT FOR 1987

LOCATION: LAT 59 52 20 N LONG 111 35 00 W
DRAINAGE AREA: 806 000 km²
TYPE OF FLOW: REGULATED SINCE 1968
TYPE OF GAUGE: RECORDING

TOTAL SUSPENDED SEDIMENT LOAD 32 900 000 TONNES FOR THE PERIOD MAY 07 TO OCT 13

REMARKS:

DAY	MAY DAILY DISCHARGE (m³/s)	MAY MEAN CONCENTRATION (mg/L)	MAY DAILY LOAD (t)	JUN DAILY DISCHARGE (m³/s)	JUN MEAN CONCENTRATION (mg/L)	JUN DAILY LOAD (t)	JUL DAILY DISCHARGE (m³/s)	JUL MEAN CONCENTRATION (mg/L)	JUL DAILY LOAD (t)	DAY
1	4 570 B			5 040	114	49 800	5 430	155	72 700	1
2	4 700 B			5 020	101 S	43 800	5 340	137 S	63 200	2
3	4 840 B			5 180	104	46 400	5 310	138	63 300	3
4	4 980 A			5 260	122	56 500	5 180	141	63 200	4
5	4 930			5 470	151	71 400	5 050	144	62 800	5
6	5 100			5 800	188	91 000	4 980	145	62 400	6
7	5 210	510 S	230 000	5 870	235 S	118 000	4 930	145	61 800	7
8	5 320	588	261 000	5 800	255	123 000	4 880	146	61 700	8
9	5 470	621	293 000	5 840	270	132 000	4 830	147	61 300	9
10	5 730	696	345 000	5 710	290	143 000	4 780	140 S	57 800	10
11	5 780	718	369 000	5 710	310	153 000	4 730	126	51 500	11
12	5 800	713 S	357 000	5 880	339 S	186 000	4 680	108	43 900	12
13	5 780	673	336 000	5 720	385	180 000	4 860	87	35 000	13
14	5 680	620	303 000	5 550	348	167 000	4 820	77 S	30 700	14
15	5 640	580 S	283 000	5 560	371 S	178 000	4 540	83	32 600	15
16	5 610	540	262 000	5 740	413	205 000	4 440	91	34 900	16
17	5 830	496	241 000	5 680	406	199 000	4 540	94	36 900	17
18	5 820	412	200 000	5 480	393 S	186 000	4 500	100	38 900	18
19	5 580	323	156 000	5 570	402	193 000	4 330	103	38 500	19
20	5 620	292 S	142 000	5 660	422	206 000	4 180	108 S	38 800	20
21	5 570	285	137 000	5 800	466	229 000	4 070	118	40 800	21
22	5 480	273	129 000	5 870	479	243 000	3 930	123	41 800	22
23	5 430	248	116 000	5 880	436	215 000	3 830	133	45 200	23
24	5 380	242	113 000	5 490	381	181 000	4 000	148	51 100	24
25	5 230	236 S	107 000	5 440	324	152 000	4 000	181	65 800	25
26	5 110	222	98 000	5 370	278 S	129 000	3 850	173	59 000	26
27	5 120	202	89 400	5 270	253	115 000	3 850	184	61 200	27
28	5 130	178	79 300	5 270	219	99 700	3 750	197	63 800	28
29	5 120	161	71 200	5 330	177 S	81 500	3 780	204 S	66 300	29
30	5 140	146	64 800	5 420	166	77 300	3 780	205	66 800	30
31	5 120	131	58 000				3 780	208	67 800	31
TOTAL	165 410		4 828 700	165 540		4 227 200	138 870		1 830 900	TOTAL

DAY	AUG DAILY DISCHARGE (m³/s)	AUG MEAN CONCENTRATION (mg/L)	AUG DAILY LOAD (t)	SEP DAILY DISCHARGE (m³/s)	SEP MEAN CONCENTRATION (mg/L)	SEP DAILY LOAD (t)	OCT DAILY DISCHARGE (m³/s)	OCT MEAN CONCENTRATION (mg/L)	OCT DAILY LOAD (t)	DAY
1	3 800	207	68 000	4 080	287 S	84 100	3 350	124 S	36 300	1
2	4 150	250	89 900	4 010	245 S	84 900	3 366	131 S	38 200	2
3	4 010	238	82 800	3 940	276 S	94 000	3 320	117 S	33 800	3
4	3 830	220	72 800	3 870	280 S	93 600	3 240	122	34 200	4
5	4 010	202	70 000	3 800	293 S	96 200	3 150	156 S	42 900	5
6	4 550	204	80 200	3 830	352 S	110 000	3 110	157 S	42 200	6
7	6 090	251 S	132 000	3 880	341	108 000	3 150 A	173 S	47 100	7
8	8 780	513	475 000	3 850	295	96 100	3 180 E	133 S	36 300	8
9	5 850	2 770 S	1 590 000	3 910	246 S	83 100	3 170 E	140 S	38 300	9
10	8 480	3 390 S	1 880 000	3 980	284 S	90 300	3 150 E	161 S	44 200	10
11	8 380	6 680 S	3 860 000	3 950	231 S	78 800	3 140 E	146 S	39 800	11
12	8 110	5 440 S	2 870 000	3 950	172 S	58 700	3 100 E	124 S	33 200	12
13	5 890	3 980 S	2 020 000	3 900	134 S	45 200	3 050 E	135 S	35 800	13
14	5 740	2 980 S	1 480 000	3 830	138 S	46 000	3 000 E			14
15	5 640	2 380	1 130 000	3 830	144 S	47 700	3 000 E			15
16	5 410	1 680	879 000	3 900	131 S	44 100	3 030 E			16
17	5 310	1 480 S	684 000	3 860	139 S	46 000	3 080 E			17
18	5 230	984 S	449 000	3 840	144 S	46 300	3 090 E			18
19	5 200	601 S	270 000	3 820	158 S	48 400	3 120 E			19
20	5 140	586 S	262 000	3 590	149 S	46 200	3 100 E			20
21	5 070	542 S	237 000	3 560	122 S	37 400	3 080 E			21
22	4 940	545	233 000	3 580	118 S	36 800	3 000 E			22
23	4 750	551	226 000	3 590	89 S	27 800	2 950 E			23
24	4 610	508 S	203 000	3 610	80 S	28 100	2 900 E			24
25	4 520	387 S	151 000	3 610	86 S	28 800	2 850 E			25
26	4 480	364 S	140 000	3 620	87 S	27 200	2 800 E			26
27	4 450	383 S	109 000	3 580	84 S	26 800	2 770 E			27
28	4 390	285 S	108 000	3 440	76 S	22 300	2 730 E			28
29	4 320	289 S	100 000	3 420	88 S	26 400	2 700 E			29
30	4 260	257	84 800	3 430	100 S	29 800	2 670 E			30
31	4 100	283 S	93 200				2 650 E			31
TOTAL	158 120		19 939 500	112 000		1 743 500	94 010		501 400	TOTAL

A - MANUAL GAUGE B - ICE CONDITIONS E - ESTIMATED S - SAMPLE(S) COLLECTED THIS DAY

SLAVE RIVER AT FITZGERALD - STATION NO. 07KB001

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAY 07	10:00		5210	WELB	DH48	510	148	25	32	48	59	73	81	93	100				19	49	32
MAY 12	08:00		5600	WELB	DH48	724	148	23	35	52	64	75	80	89	99	100			20	45	35
MAY 15	14:15		5640	WELB	DH48	583	148	23	37	54	67	78	84	91	99	100			18	47	37
MAY 20	13:20		5620	WELB	DH48	398	136	23	29	51	59	71	79	87	99	100			21	50	29
MAY 25	13:55		5230	WELB	DH48	239	131	25	33	55	67	78	86	95	100				14	53	33
JUN 02	13:15		5020	WELB	DH48	98	147	17	22	31	44	78	84	92	98	100			18	82	22
JUN 07	08:20		5670	WELB	DH48	225	148	13	17	33	48	63	72	86	99	100			28	55	17
JUN 12	11:50		5680	WELB	DH48	327	146	17	29	45	56	69	76	85	96	100			24	47	29
JUN 15	07:30		5560	WELB	DH48	353	147	17	32	48	59	76	82	87	97	100			18	50	32
JUN 18	08:25		5480	WELB	DH48	398	138	28	40	62	73	82	89	93	98	100			11	49	40
JUN 26	10:00		5370	WELB	DH48	290	120	30	34	55	67	81	86	92	99	100			14	52	34
JUN 29	10:00		5330	WELB	DH48	188	125	13	20	39	51	64	73	80	96	100			27	53	20
JUL 02	15:00		5340	WELB	DH48	136	123	5	9	22	44	61	88	74	96	100			31	80	9
JUL 10	08:00		4780	WELB	DH48	147	141	28	34	55	70	81	89	95	99	100			11	55	34
JUL 14	09:40		4620	WELB	DH48	77	142	31	33	56	67	81	91	97	100				8	58	33
JUL 20	07:15		4180	WELB	DH48	104	141	14	32	46	72	84	93	97	100				7	61	32
JUL 28	08:35		3780	WELB	DH48	204	135	12	18	34	38	59	73	86	98	100			27	57	16
AUG 07	14:25		6090	WELB	DH48	224	133	13	17	32	38	55	68	80	97	100			32	51	17
AUG 08	17:00		6650	WELB	DH48	2960	188	55	67	80	90	93	98	99	100				4	29	67
AUG 10	08:30		6480	WELB	DH48	3180	193	34	41	60	72	90	98	97	100				4	55	41
AUG 10	18:00		6480	WELB	DH48	2890	190	34	46	66	78	93	97	98	100				3	51	46
AUG 11	07:15		6380	WELB	DH48	8240	221	40	57	77	88	97	98	99	99	100			2	41	57
AUG 11	15:00		6360	WELB	DH48	6880	226	26	69	77	91	96	99	99	100				1	40	59
AUG 12	07:15		6110	WELB	DH48	6130	222	31	69	78	90	97	98	99	100				2	42	56
AUG 12	15:50		6110	WELB	DH48	5800	219	44	61	80	90	97	99	99	100				1	38	61
AUG 13	14:30		5880	WELB	DH48	4110	205	39	60	78	91	96	98	99	100				2	38	60
AUG 14	09:00		5740	WELB	DH48	3240	206	42	61	78	90	96	98	99	100				2	37	61
AUG 17	12:20		5310	WELB	DH48	1800	182	44	63	78	89	96	97	98	100				3	34	63
AUG 18	08:00		5230	WELB	PUMP	1280	185	47	61	78	88	96	97	99	100				3	38	61
AUG 18	08:20		5230	WELB	DH48	1270	171	44	59	77	87	94	97	98	100				3	38	59
AUG 18	08:30		5230	WELB	DH48	1280	183	45	57	75	85	93	98	98	100				4	39	57
AUG 18	08:35		5230	WELB	PUMP	1220	181	44	60	77	89	94	97	98	100				3	37	60
AUG 18	08:00		5200	WELB	PUMP	678	181	38	54	73	81	90	94	98	99	100			6	40	54
AUG 20	08:00		5140	WELB	PUMP	578	180	38	49	68	78	88	92	96	99	100			8	43	49
AUG 20	14:00		5140	WELB	PUMP	584	184	37	54	71	82	90	95	98	99	100			5	41	54
AUG 21	09:00		5070	WELB	PUMP	593	174	45	55	71	81	90	93	98	99	100			7	38	55
AUG 21	13:30		5070	WELB	PUMP	548	183	41	54	68	78	89	93	98	100				7	39	54
AUG 24	09:00		4810	WELB	PUMP	552	180	38	55	75	83	92	95	98	100				5	40	55
AUG 24	14:30		4810	WELB	PUMP	525	183	41	57	75	87	92	97	98	100				3	40	57
AUG 25	09:00		4520	WELB	PUMP	479	185	48	55	71	81	88	93	95	99	100			7	38	55
AUG 25	15:00		4520	WELB	PUMP	378	181	40	54	68	78	85	91	94	98	100			8	37	54
AUG 26	10:00		4480	WELB	PUMP	386	180	40	54	70	78	88	92	94	99	100			8	38	54
AUG 27	10:00		4450	WELB	PUMP	312	148	37	52	71	81	90	93	97	100				7	41	52
AUG 27	13:00		4450	WELB	PUMP	320	181	42	56	73	83	88	92	95	99	100			5	39	56
AUG 27	14:00		4450	WELB	PUMP	298	148	50	52	74	86	90	94	97	100				6	42	52
AUG 28	09:00		4380	WELB	PUMP	301	155	32	41	58	68	85	91	95	99	100			9	50	41
AUG 28	13:30		4380	WELB	PUMP	280	181	37	51	65	74	84	90	92	97	100			10	39	51
AUG 29	10:00		4320	WELB	PUMP	288	148	35	41	60	76	88	93	95	99	100			7	52	41
AUG 29	10:30		4320	WELB	PUMP	287	188	28	48	64	80	87	94	97	100				6	46	48
AUG 29	15:00		4320	WELB	PUMP	284	155	31	34	61	71	86	90	93	98	100			10	56	34
AUG 31	09:00		4100	WELB	PUMP	278	154	22	40	58	70	83	90	93	97	100			10	50	40
AUG 31	15:00		4100	WELB	PUMP	288	181	30	39	57	68	84	91	94	99	100			9	52	39
SEP 01	09:00		4080	WELB	PUMP	272	153	33	42	60	70	86	91	95	98	100			9	49	42
SEP 01	13:00		4080	WELB	PUMP	261	189	34	43	62	75	88	93	97	99	100			7	50	43
SEP 02	09:30		4010	WELB	PUMP	280	148	38	44	66	73	89	94	95	99	100			6	50	44
SEP 02	13:30		4010	WELB	PUMP	261	188	46	49	69	78	87	91	92	99	100			8	42	49
SEP 03	09:00		3940	WELB	PUMP	284	157	38	50	71	79	88	92	95	98	100			8	42	50
SEP 03	13:30		3940	WELB	PUMP	277	185	36	49	66	78	86	92	97	99	100	100		8	43	49
SEP 04	09:00		3870	WELB	PUMP	281	181	36	54	72	80	88	89	92	97	100			11	35	54
SEP 04	13:30		3870	WELB	PUMP	283	180	32	54	71	82	91	95	96	99	100			5	41	54
SEP 05	10:00		3800	WELB	PUMP	274	184	41	63	78	81	91	96	96	100				4	33	63
SEP 08	09:00		3630	WELB	PUMP	342	185	30	38	55	68	84	95	99	100				5	57	38
SEP 09	09:00		3910	WELB	PUMP	257	188	24	36	54	68	84	92	95	99	100			6	54	36
SEP 09	13:00		3910	WELB	PUMP	238	180	31	37	56	73	87	92	96	99	100			6	55	37
SEP 10	09:00		3860	WELB	PUMP	268	138	33	49	71	81	92	95	97	100				5	46	49
SEP 11	09:00		3850	WELB	PUMP	252	123	27	52	71	78	92	92	96	99	100			8	40	52
SEP 12	09:00		3850	WELB	PUMP	187	124	8	41	56	70	80	87	92	99	100			13	46	41
SEP 13	13:00		3800	WELB	PUMP	138	142														
SEP 14	09:00		3630	WELB	PUMP	128	148														
SEP 15	12:00		3630	WELB	PUMP	158	153														
SEP 15	12:30		3630	WELB	PUMP	153	138														
SEP 16	09:00		3900	WELB	PUMP	131	148														
SEP 17	13:00		3850	WELB	PUMP	140	148														
SEP 18	09:00		3840	WELB	PUMP	145	131														
SEP 18	13:00		3820	WELB	PUMP	151	153														
SEP 20	13:00		3890	WELB	PUMP	184	158														
SEP 21	09:00		3850	WELB	PUMP	126	166														
SEP 22	09:00		3890	WELB	PUMP	127	151														
SEP 23	09:00		3890	WELB	PUMP	98	143														
SEP 24	09:00		3810	WELB	PUMP	94	180														
SEP 25	09:00		3810	WELB	PUMP	85	150														
SEP 26	12:00		3820	WELB	PUMP	88	148														
SEP 27	12:00		3860	WELB	PUMP	89	148														
SEP 28	09:00		3440	WELB	PUMP	75	141														
SEP 29	09:00		3420	WELB	PUMP	84	141														
SEP 30	09:00		3430	WELB	PUMP	87	138														
OCT 01	09:00		3390	WELB	PUMP	114	128														
OCT 02	09:30		3380	WELB	PUMP	134	130														
OCT 03	13:30		3320	WELB	PUMP	114	127														
OCT 06	09:00		3180	WELB	PUMP	127	121														
OCT 06	15:00		3160	WELB	PUMP	181	134														
OCT 08	09:00		3110	WELB	PUMP	113	139														
OCT 07	09:00		3180	WELB	PUMP	187	132														
OCT 08	09:00		3180	WELB	PUMP	139	124														
OCT 09	09:00		3170	WELB	PUMP	126	114														
OCT 10	12:00		3180	WELB	PUMP	189	110														
OCT 11	13:00		3140	WELB	PUMP	153	187														
OCT 12	16:00		3100	WELB	PUMP	120	151														
OCT 13	13:00		3050	WELB	PUMP	135	155														
OCT 13	13:01		3050	WELB	PUMP	134	150														
OCT 13	13:55		3050	WELB	DH48	140	150														

NOTE : SINGLE VERTICAL LOCATED AT WELB (WATER'S EDGE LEFT BANK) FOR 1987

ALBERTA

SLAVE RIVER AT FITZGERALD - STATION NO. 07NB001

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : JUN-SEP MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1971	-----P-CCC--	MANUAL	359	AUG 04	106	OCT 21	152 000	AUG 01	5 280 000	---	---	---
1972	-----CCCC---	MANUAL	7 610	JUN 22 *	131	SEP 15	4 540 000	JUN 22 *	44 500 000 *	385 000	385 000	---
1973	-----PCCCCP--	MANUAL	1 010	JUN 24	85	OCT 03	558 000	JUN 24	20 700 000	152 000	259 000	0.0
1974	-----CCCCC--	MANUAL	881	JUL 29	85	SEP 25	544 000	JUL 25	21 300 000	180 000	226 000	5.7
1975	----PCCCCC--	MANUAL	558	MAY 15	88	OCT 22	238 000	MAY 15	12 300 000	72 700	187 000	0.0
1976	----CCCCP---	MANUAL	3 080	JUL 08	84	AUG 05	1 640 000	JUL 08	25 300 000	---	---	---
1977	----CCCCCP--	MANUAL	720	MAY 20	28	SEP 27	384 000	MAY 19	14 800 000	88 500	184 000	5.7
1978	----CCCCC---	MANUAL	1 640	JUN 15	53	AUG 28	757 000	JUN 15	18 800 000	123 000	187 000	8.5
1979	----PCCCCC--	DUAL	1 210	JUN 09	45	OCT 23	891 000	JUN 09	23 100 000	174 000	159 000	5.6
1980	----CCCCCC--	AUTO	2 030	JUN 17	48	SEP 04	752 000	JUN 17	12 300 000	83 400	150 000	8.2
1981	----PCCCCC--	AUTO	800	JUN 10	28	AUG 27	287 000	JUN 10	7 480 000	48 300	139 000	0.0
1982	-----CCCCC--	AUTO	5 270	JUL 25	48	OCT 08	2 550 000	JUL 25	24 800 000	196 000	144 000	0.0
1983	----PCCCCP--	DUAL	1 580	JUL 03	52	SEP 14	796 000	JUL 26	26 200 000	187 000	149 000	0.0
1984	----CCCCCC--	DUAL	2 420	JUN 1	80	SEP 14	1 090 000	JUN 01	28 700 000	188 000	150 000	0.0
1985	----PCCCCC-P	DUAL	822	MAY 15	14	AUG 30 *	448 000	DEC 01	10 400 000	50 500	143 000	3.7
1986	----PCCPCC--	DUAL	1 270	JUN 9	57	SEP 20	534 000	JUN 09	13 800 000	---	---	---
1987	----PCCCCP--	DUAL	6 880	AUG 11	75	SEP 28	3 680 000	AUG 11	32 900 000	226 000	149 000	5.2

AUTO - AUTOMATIC SAMPLING DUAL - MANUAL AND AUTOMATIC SAMPLING MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

SOUTH SASKATCHEWAN RIVER AT HIGHWAY NO. 41 - STATION NO. 05AK001

LOCATION: LAT 50 44 15 N LONG 110 05 45 W
DRAINAGE AREA: 88 000 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: MANUAL

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE VERTICAL SAMPLING (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
APR 22	14:10	4.0	144	110	D49	85	280														
MAY 20	09:35	8.0	281	110	D49	246	213														
JUN 02	09:30	7.0	103	110	D49	58	248														
JUN 22	11:50	16.0	79.7	110	D49	38	245														
JUL 21	09:00	18.0	58.8	110	D49	30	234														
AUG 11	09:00	15.0	48.4	110	D49	26	238														
SEP 08	09:00	15.0	134	110	D49	57	204														
SEP 29	09:05	11.5	46.3	110	D49	9	204														
NOV 03	09:10	4.0	84.7	110	D49	18	251														

NOTE : SINGLE VERTICAL LOCATED AT 110 METRES FOR 1987

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : APR-OCT MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1966	---PCCCCCCCC	MANUAL	1 950	JUN 08	8	SEP 18	195 000	JUN 08	2 430 000	---	---	---
1967	CCCCCCCCCCCC	MANUAL	3 880	MAY 11	5	SEP 06	564 000	JUN 03	7 480 000 *	34 700	34 700	---
1968	CCCCCCCCCCCC	MANUAL	2 020	JUN 08	3	AUG 11	107 000	JUN 08	1 180 000	5 330	20 000	73.4
1969	CCCCCCCCCCCC	MANUAL	3 290	JUN 30	4	SEP 23	452 000	JUL 02	4 550 000	20 500	20 200	42.0
1970	CCCCCCCCCCCC	MANUAL	3 740	JUN 17	2	SEP 06 *	417 000	JUN 17	2 700 000	12 500	18 300	34.4
1971	CCCCCCCCCCCC	MANUAL	1 640	JUN 10	3	SEP 05	170 000	JUN 10	2 350 000	10 800	18 800	30.4
1972	CCCCCCCCCCCC	MANUAL	4 180	MAR 18	3	JAN 27	281 000	JUN 04	4 720 000	18 500	17 200	24.4
1973	CCCCCCCCCCCC	MANUAL	1 480	JUN 17	2	JAN 10	48 100	JUN 17	720 000	3 270	15 200	26.7
1974	CCCCCCCCCCCC	MANUAL	8 380	MAY 04	3	OCT 18	350 000	MAY 04	4 080 000	19 000	15 700	23.8
1975	CCCCCCCCCCCC	MANUAL	8 100	JUN 23 *	2	JAN 07	1 880 000	JUN 23 *	7 480 000	34 700	17 800	21.2
1976	CCCCCCCCCCCC	MANUAL	1 310	MAY 15	2	SEP 25	70 800	AUG 10	1 300 000	5 850	15 800	21.8
1977	CCCCCCCCCCCC	MANUAL	1 300	JUN 16	3	APR 29	28 800	JUN 15	120 000	486	15 100	23.8
1978	CCCCCCCCCCCC	MANUAL	1 870	JUN 03	9	AUG 13	98 700	JUN 10	2 450 000	10 400	14 800	22.1
1979	---CCCCCCC--	MANUAL	1 720	MAY 30	2	SEP 01	102 000	MAY 30	1 180 000	5 400	14 000	23.1
1980	---CCCCCCC--	MANUAL	4 130	MAY 30	7	SEP 02	368 000	MAY 30	2 150 000	10 100	13 800	20.8
1981	--PCCCCCCP-	MANUAL	4 430	MAY 18	11	SEP 22	578 000	MAY 25	4 590 000	21 400	14 300	19.1
1982	---CCCCCCC--	MANUAL	2 000	JUL 08	8	SEP 12	93 500	JUL 08	1 530 000	7 410	13 800	18.7
1983	--PCCCCCC--	MANUAL	2 720	JUL 21	4	SEP 26	43 900	JUL 21	418 000	1 940	13 100	19.3
1984	---CCCCCCC--	MANUAL	627	JUN 28	5	MAY 5	9 100	JUN 28	118 000	552	12 400	20.0
1985	-----PPPPPP--	MANUAL	457	SEP 17	5	SEP 8	---	---	---	---	---	---
1986	---PPPPPPP--	MANUAL	585	MAY 28	15	AUG 18	---	---	---	---	---	---
1987	---PPPPPP-P-	MANUAL	248	MAY 20	8	SEP 28	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

SOUTH SASKATCHEWAN RIVER AT MEDICINE HAT - STATION NO. 05AJ001

LOCATION: LAT 50 02 35 N LONG 110 40 40 W
DRAINAGE AREA: 58 400 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)		TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
APR 28	15:30	16.0	135	135	K	DH59	28	243														
MAY 25	15:10	15.0	180	87.0	K	DH59	61	207														
JUN 30	13:50	17.0	83.1	110	K	DIP	17	312														
JUL 28	11:50	23.0	200	126	K	DH59	192	188														
AUG 31	15:00	20.0	114	126	K	DH59	38	304														

NOTE : SINGLE VERTICAL IS UNDETERMINED FOR 1987

VERTICAL SYMBOL(S): K - NOT AT REGULAR SINGLE SAMPLING VERTICAL,FROM LEFT BANK

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED MAXIMUM (mg/L)			CONCENTRATION MINIMUM (mg/L)			SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1974	------PPPP--	MANUAL	68	JUL	16	9	SEP	11	---	---	---	---	---	---
1975	----PP-PPP--	MANUAL	2 930	JUN	23	5	SEP	15	---	---	---	---	---	---
1976	--PPPPPPPP--	MANUAL	493	MAY	11	1	MAY	05 *	---	---	---	---	---	---
1977	--P-PPPPPP--	MANUAL	83	MAY	24	11	JUN	28	---	---	---	---	---	---
1978	--PPP-PP---P	MANUAL	845	MAR	30	11	DEC	12	---	---	---	---	---	---
1979	----P-P-PP--	MANUAL	808	MAY	31	4	JUL	31	---	---	---	---	---	---
1980	---PPP-P-P--	MANUAL	3 020	MAY	28 *	24	AUG	29	---	---	---	---	---	---
1981	--P-P--PP---	MANUAL	1 780	MAY	26	17	SEP	28	---	---	---	---	---	---
1982	-----PP-PP---	MANUAL	348	JUN	23	42	OCT	27	---	---	---	---	---	---
1983	--PP-PPPP-P-	MANUAL	397	JUN	02	8	SEP	28	---	---	---	---	---	---
1984	---PPPP-PP--	MANUAL	113	SEP	10	4	MAY	15	---	---	---	---	---	---
1985	--PPPPPPPP--	MANUAL	688	MAY	29	11	JUL	31	---	---	---	---	---	---
1986	-PPPPPP-P-P-	MANUAL	2 800	FEB	28	9	SEP	3	---	---	---	---	---	---
1987	---PPPPP----	MANUAL	192	JUL	28	17	JUN	30	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

STEEPBANK RIVER NEAR FORT MCMURRAY - STATION NO. 07DA008

LOCATION: LAT 57 00 14 N LONG 111 24 53 W
DRAINAGE AREA: 1 320 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)		TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAY 03	12:30	11.0	31.2	10RB	X	DH48	282	109	3	5	13	18	26	36	46	85	99	100		64	31	5
JUN 19	13:15	18.0	7.84	MID	X	DH48	18	170														
AUG 28	13:45	18.0	1.66	10RB	X	DH48	4	237														

NOTE : SINGLE VERTICAL IS UNDETERMINED FOR 1987

VERTICAL SYMBOL(S): X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

ALBERTA

STEEPBANK RIVER NEAR FORT MCMURRAY - STATION NO. 07DA005

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1975	-----PP-PP--	MANUAL	741	JUL 18	24	JUN 24	---	---	---	---	---	---
1976	---PP-PPP-P-	MANUAL	709	APR 18	6	NOV 05	---	---	---	---	---	---
1977	---PPPPPPP--	MANUAL	431	APR 18	3	SEP 22	---	---	---	---	---	---
1978	---PPPPPP---	MANUAL	251	MAY 01	8	JUL 24	---	---	---	---	---	---
1979	----PPPPPP--	MANUAL	115	MAY 30	6	AUG 23	---	---	---	---	---	---
1980	---PPPPPPP--	MANUAL	125	SEP 19	6	JUN 27	---	---	---	---	---	---
1981	----P-PP----	MANUAL	60	JUL 18	3	AUG 28	---	---	---	---	---	---
1982	-----PP-PP---	MANUAL	120	MAY 18	3	JUN 25	---	---	---	---	---	---
1983	-----P-PP----	MANUAL	11	JUN 22	3	AUG 07	---	---	---	---	---	---
1984	-----P--PP---	MANUAL	75	AUG 11	2	SEP 21 *	---	---	---	---	---	---
1985	---P-P-P-----	MANUAL	872	APR 30 *	3	AUG 20	---	---	---	---	---	---
1986	----PP-P-----	MANUAL	189	MAY 9	4	AUG 26	---	---	---	---	---	---
1987	----PP-P-----	MANUAL	262	MAY 3	4	AUG 28	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH

* - EXTREME FOR PERIOD OF RECORD

SWAN RIVER NEAR KINUSO - STATION NO. 07BJ001

SUSPENDED SEDIMENT FOR 1987

LOCATION: LAT 55 19 00 N LONG 115 24 30 W
DRAINAGE AREA: 1 800 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

TOTAL SUSPENDED SEDIMENT LOAD 88 700 TONNES FOR THE PERIOD APR 22 TO OCT 31

REMARKS:

	APR			MAY			JUN			
DAY	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAY
1	4.55 B			34.9	723 S	2 180	25.7	304	675	1
2	8.89 B			44.4	1 080 S	4 070	20.6	784 S	1 400	2
3	5.41 B			57.1	1 450 S	7 150	43.7	1 470 S	5 550	3
4	5.83 B			44.7	774 S	2 990	33.8	498 S	1 450	4
5	8.52 B			34.2	309 S	913	23.8	211 S	434	5
6	21.1 B			28.4	237	587	30.3	210 S	388	6
7	28.3 B			24.8	181 S	406	20.4	210 S	370	7
8	30.7 B			23.3	188 S	382	16.8	140 S	203	8
9	35.9 B			21.0	171 S	310	13.9	80 S	88.1	9
10	39.5 B			20.1	200 S	347	16.8	88 S	138	10
11	44.6 B			17.9	157 S	243	21.3	108 S	189	11
12	31.7 B			16.6	114 S	164	16.7	110 S	148	12
13	27.3 B			15.7	95	129	12.6	85 S	70.8	13
14	34.0 B			14.3	87 S	83.6	10.4	59 S	53.0	14
15	38.2 B			13.3	58 S	66.6	8.04	46 S	36.9	15
16	38.8			13.2	84 S	73.0	8.00	28 S	19.4	16
17	33.6			12.3	58 S	59.5	7.15	22 S	13.6	17
18	27.8			11.4	148 S	146	6.40	18 S	8.85	18
19	23.1			14.6	156 S	189	5.63	13 S	6.32	19
20	18.0			21.2	281 S	480	5.05	12 S	5.24	20
21	16.3			19.7	201 S	342	4.70	17 S	8.90	21
22	16.3	220 S	348	16.8	148 S	216	4.62	39 S	18.2	22
23	17.5	203	307	15.0	134 S	174	4.65	22 S	8.65	23
24	17.3	182	287	14.8	137 S	175	4.40	15 S	5.70	24
25	18.2	186	311	14.6	48 S	81.4	4.19	12 S	4.34	25
26	19.2	217 S	380	13.5	63 S	81.6	4.84	11 S	4.41	26
27	18.4	202 S	321	12.0	71 S	73.5	3.89	11 S	3.70	27
28	21.6	315 S	585	10.6	178 S	184	3.50	9 S	2.72	28
29	27.9	615 S	1 480	10.7	287 S	278	3.40	9 S	3.04	29
30	33.6	705 S	2 050	16.6	282 S	380	3.45	10 S	2.98	30
31				17.6	239 S	362				31
TOTAL	715.80		8 049	845.1		23 183.7	378.71		11 304.85	TOTAL

	JUL			AUG			SEP			
DAY	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAY
1	3.28	10 S	2.83	84.7	2 040 S	14 800	8.77	41	31.1	1
2	3.01	16 S	3.90	71.8	781	4 810	8.18	40 S	28.2	2
3	3.80	16 S	5.28	57.0	804 S	3 020	22.1	132	252	3
4	5.47	16 S	7.58	42.8	434	1 800	30.5	288	759	4
5	3.88	39 S	13.0	31.8	264	721	20.4	205 S	361	5
6	3.18	49 S	13.4	24.6	183 S	389	15.2	148	194	6
7	2.73	35 S	8.28	18.8	127	207	12.7	108	118	7
8	3.25	28	7.30	15.0	84	108	10.6	74 S	69.1	8
9	7.61	55	38.2	12.8	88	95.8	8.72	84	45.3	9
10	12.5	118	127	14.5	272	341	11.8	89	70.3	10
11	8.41	82 S	74.8	59.6	1 280 S	8 510	11.3	82 S	80.1	11
12	6.80	42 S	24.7	83.1	861	5 240	8.37	83	42.8	12
13	5.89	40 S	18.7	41.1	421	1 480	6.49	38	26.4	13
14	5.03	25 S	10.9	28.6	208 S	525	12.8	84 S	89.7	14
15	4.08	14 S	4.85	22.7	114	224	12.8	102	111	15
16	3.46	13 S	3.81	18.3	70	111	11.8	87	87.2	16
17	4.89	13	5.49	16.8	88 S	92.7	11.2	86	83.2	17
18	13.4	44 S	50.8	20.6	81	181	9.58	87	55.3	18
19	10.4	89 S	89.0	18.3	73	122	8.39	82	37.7	19
20	8.13	63 S	37.2	16.3	81	88.9	7.48	41 S	26.5	20
21	7.75	23 S	15.4	21.4	284 S	525	8.89	34	20.2	21
22	8.42	43 S	31.3	27.6	288	638	6.30	28	15.2	22
23	8.71	28	15.2	21.0	147	267	5.78	23	11.5	23
24	5.74	22	10.9	16.6	100 S	143	5.40	19	8.86	24
25	4.74	23 S	9.01	13.8	70	83.5	5.03	16	6.52	25
26	4.53	23 S	9.00	12.0	52	53.9	4.82	13	5.41	26
27	7.16	45 S	27.9	10.4	43 S	36.8	4.59	12 S	4.76	27
28	7.80	58 S	39.1	9.37	40	32.4	4.31	11	4.10	28
29	14.5	195 S	244	8.99	36	28.5	4.08	11	3.86	29
30	12.1	255 S	267	8.95	48 S	42.1	3.90	10 S	3.37	30
31	24.7	574 S	1 440	10.2	83	86.5				31
TOTAL	224.15		2 656.06	842.81		42 788.9	303.85		2 629.80	TOTAL

B - ICE CONDITIONS

S - SAMPLE(S) COLLECTED THIS DAY

ALBERTA

SWAN RIVER NEAR KINUSO - STATION NO. 07BJ001

SUSPENDED SEDIMENT FOR 1987

DAY	OCT DAILY DISCHARGE (m^3/s)	OCT MEAN CONCENTRATION (mg/L)	OCT DAILY LOAD (t)	DAILY DISCHARGE (m^3/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m^3/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAY
1	3.86	10	3.74							1
2	3.81	10	3.29							2
3	3.66	9	2.88							3
4	3.85	9 S	2.99							4
5	4.48	13	5.52							5
6	7.36	27	17.2							6
7	6.14	29	15.4							7
8	5.60	26	12.6							8
9	5.45	22	10.4							9
10	4.85	18	7.85							10
11	4.43	17 S	6.61							11
12	4.41	15	5.72							12
13	4.43	14	5.38							13
14	4.31	13	4.84							14
15	4.02	12	4.17							15
16	3.72	12	3.86							16
17	3.67	11	3.49							17
18	3.60	11 S	3.61							18
19	3.62	11	3.35							19
20	3.33	10	2.88							20
21	3.32	10	2.87							21
22	3.56	9	2.77							22
23	3.68	9	2.86							23
24	3.42	8	2.36							24
25	3.28	8 S	2.27							25
26	3.32	8	2.29							26
27	3.44	8	2.38							27
28	3.28	8	2.66							28
29	3.26	8	2.65							29
30	3.43	10	2.85							30
31	3.53	11 S	3.35							31
TOTAL	130.26		158.66							TOTAL

S - SAMPLE(S) COLLECTED THIS DAY

SWAN RIVER NEAR KINUSO - STATION NO. 07BJ001

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.063	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
APR 22	11:10	4.0	18.9	28.0	DH59	337	104														
APR 26	16:30	9.0	19.5	28.0	DH59	321	97														
APR 27	15:04	11.0	18.9	28.0	DH59	198															
APR 28	15:21	12.0	22.9	28.0	DH59	371 C															
APR 29	18:00	13.0	30.2	28.0	DH59	873 C															
APR 30	19:00	11.0	35.4	28.0	DH59	712 C															
MAY 01	07:20	10.0	33.7	28.0	DH59	705															
MAY 02	19:30	6.0	46.1	28.0	DH59	1190	88	10	13	24	32	41	51	74	95	100			49	38	13
MAY 03	17:47	9.0	57.5	28.0	DH59	1480	105	8	11	21	28	42	58	78	95	100			45	44	11
MAY 04	19:47	8.0	40.2	28.0	DH59	469 C	108	13	18	27	34	52	67	88	99	100			33	51	16
MAY 06	17:50	9.0	32.3	28.0	DH59	278															
MAY 07	19:10	15.0	23.8	28.0	DH59	187	103														
MAY 08	08:30	13.0	22.5	28.0	DH59	190															
MAY 09	20:20	13.0	20.9	28.0	DH59	184															
MAY 10	19:07	13.0	19.5	28.0	DH59	215															
MAY 11	17:14	12.0	17.5	28.0	DH59	136															
MAY 12	19:04	13.0	16.3	28.0	DH59	109															
MAY 14	20:07	16.0	13.7	28.0	DH59	57	123														
MAY 15	15:00	15.0	13.2	28.0	DH59	61															
MAY 16	20:07	13.0	13.0	28.0	DH59	61															
MAY 17	12:20	13.0	12.4	28.0	DH59	48															
MAY 18	19:11	10.0	11.3	28.0	DH59	166															
MAY 19	19:44	11.0	10.3	28.0	DH59	152															
MAY 20	19:17	13.0	21.2	28.0	DH59	246															
MAY 21	16:25	12.0	19.2	28.0	DH59	189	118														
MAY 22	19:10	14.0	18.1	28.0	DH59	137															
MAY 23	16:35	13.0	14.8	28.0	DH59	133															
MAY 24	19:14	15.0	15.2	28.0	DH59	126															
MAY 25	13:30	15.5	14.7	28.0	DH59	30															
MAY 26	19:10	14.0	13.0	28.0	DH59	61															
MAY 27	17:54	15.0	11.7	28.0	DH59	72															
MAY 28	19:00	14.0	10.5	28.0	DH59	243 C															
MAY 29	18:06	13.0	11.0	28.0	DH59	306 C															
MAY 30	20:07	17.0	18.5	28.0	DH59	236 C															
MAY 31	18:45	16.0	18.0	28.0	DH59	233															
JUN 02	19:10	11.0	20.4	28.0	DH59	1130	129	23	34	38	44	58	87	83	97	100			33	43	24
JUN 03	18:40	12.0	47.2	28.0	DH59	1170	131	15	23	35	44	56	69	81	97	100			34	43	23
JUN 04	16:17	15.0	30.6	28.0	DH59	372															
JUN 05	18:37	17.0	22.3	28.0	DH59	198															
JUN 06	19:10	18.0	20.6	28.0	DH59	221															
JUN 07	17:43	19.0	19.8	28.0	DH59	206															
JUN 08	18:59	20.0	18.8	28.0	DH59	113															
JUN 09	14:54	21.0	13.5	28.0	DH59	75															
JUN 10	18:20	20.0	19.8	28.0	DH59	99	124														
JUN 11	16:28	20.0	19.0	28.0	DH59	111															
JUN 12	09:21	19.0	18.1	28.0	DH59	116															
JUN 13	20:07	16.0	11.9	28.0	DH59	57															
JUN 14	10:45	17.0	10.4	28.0	DH59	61															
JUN 15	19:38	15.0	8.78	28.0	DH59	39															
JUN 16	19:08	15.0	7.78	28.0	DH59	24															
JUN 17	16:39	20.0	8.91	28.0	DH59	22	139														
JUN 18	18:28	22.0	8.21	28.0	DH59	16															
JUN 19	15:45	23.0	9.63	28.0	DH59	12															
JUN 20	08:13	19.0	5.10	28.0	DH59	12															
JUN 21	09:41	21.0	4.70	28.0	DH59	14															
JUN 22	12:10	18.5	4.83	28.0	DH59	43	145														
JUN 23	19:19	16.0	4.51	28.0	DH59	17															
JUN 24	15:31	20.0	4.36	28.0	DH59	14															
JUN 25	15:27	18.0	4.12	28.0	DH59	12															
JUN 26	13:10	18.0	4.74	28.0	DH59	10															
JUN 27	19:21	17.0	3.74	28.0	DH59	10															
JUN 28	10:11	18.0	3.62	28.0	DH59	8															
JUN 29	20:07	22.0	3.48	28.0	DH59	8	188														
JUN 30	16:31	24.0	3.44	28.0	DH59	10															
JUL 01	19:18	25.0	3.20	28.0	DH59	10															
JUL 02	15:45	21.0	3.01	28.0	DH59	18															
JUL 03	20:10	22.0	4.68	28.0	DH59	15															
JUL 04	19:14	21.0	4.75	28.0	DH59	18															
JUL 05	10:45	19.0	3.91	28.0	DH59	38															
JUL 06	19:30	23.0	2.98	28.0	DH59	45															
JUL 07	18:08	21.0	2.87	28.0	DH59	31	178														
JUL 11	19:20	23.0	6.37	28.0	DH59	59	154														
JUL 12	13:15	21.0	6.83	28.0	DH59	40															
JUL 13	18:21	23.0	5.62	28.0	DH59	40															
JUL 14	18:10	21.0	4.77	28.0	DH59	18															
JUL 15	19:19	25.0	3.67	28.0	DH59	14															
JUL 16	18:21	19.0	3.38	28.0	DH59	13															
JUL 18	20:10	22.0	12.8	28.0	DH59	88	152														
JUL 18	13:24	20.0	10.1	28.0	DH59	101															
JUL 20	11:02	17.0	8.10	28.0	DH59	70															
JUL 20	14:00	17.0	7.93	28.0	DH59	31															
JUL 21	20:10	20.0	8.78	28.0	DH59	38															
JUL 22	18:14	22.0	7.83	28.0	DH59	41															
JUL 25	19:20	23.0	4.47	28.0	DH59	22	188														
JUL 25	08:20	22.0	4.42	28.0	DH59	22															
JUL ?	07:48	21.0	7.15	28.0	DH59	44															
JUL 26	08:08	22.0	7.52	28.0	DH59	46															
JUL 29	08:30	23.0	19.8	28.0	DH59	200															
JUL 30	08:30	22.0	11.5	28.0	DH59	228															
JUL 31	08:30	20.0	23.8	28.0	DH59	433	155	17	24	43	54	80	95	78	94	100			32	44	24
AUG 01	08:20	16.0	89.5	28.0	DH59	3240	155	11	17	27	34	54	82	98	100				18	65	17
AUG 03	09:10	14.0	89.5	28.0	DH59	848	141	14	18	31	38	58	72	92	99	100			28	54	18
AUG 06	10:12	17.0	25.0	28.0	DH59	185															
AUG 11	18:43	14.0	78.8	28.0	DH59	1940	161	9	12	20	28	40	58	73	93	100			44	44	12
AUG 14	12:15	13.0	28.0	28.0	DH59	203	136														
AUG 17	10:18	15.0	18.1	28.0	DH59	81	141														
AUG 21	17:37	15.0	26.8	28.0	DH59	359	119														
AUG 24	10:41	14.0	18.8	28.0	DH59	91															
AUG 26	13:00	15.0	18.4	28.0	DH59	108															
AUG 27	09:10	15.0	10.5	28.0	DH59	44															
AUG 30	15:30	15.0	10.5	28.0	DH59	50															
SEP 02	15:10	13.0	8.05	28.0	DH59	41	128														

NOTE : SINGLE VERTICAL LOCATED AT 28.0 METRES FOR 1987

CONCENTRATION SYMBOL(S): C - COARSE MATERIAL PRESENT

CONTINUED

ALBERTA

SWAN RIVER NEAR KINUSO - STATION NO. 07BJ001 (CONTINUED)

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m^3/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
SEP 05	08:20	15.0	31.3	28.0	DH59	213	124														
SEP 08	07:45	11.0	11.1	28.0	DH59	78															
SEP 11	11:45	15.0	11.2	28.0	DH59	84	133														
SEP 14	07:10	14.0	10.6	28.0	DH59	39															
SEP 20	07:40	11.0	7.80	28.0	DH59	43	120														
SEP 27	15:20	8.0	4.57	28.0	DH59	12	142														
SEP 30	12:15	10.0	3.91	28.0	DH59	10															
OCT 04	06:22	9.0	3.81	28.0	DH59	9	154														
OCT 11	15:43	8.0	4.47	28.0	DH59	17	147														
OCT 18	11:30	3.0	3.83	28.0	DH59	11	149														
OCT 26	08:30	0.0	3.37	28.0	DH59	8	158														
OCT 31	11:30	1.0	3.84	28.0	DH59	11	153														

NOTE : SINGLE VERTICAL LOCATED AT 28.0 METRES FOR 1987

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : APR-OCT MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1969	---PCCCCCC--	MANUAL	2 290	SEP 05	5	JUN 30	21 300	SEP 05	70 400	---	---	---
1970	--CCCCCCCCCC	MANUAL	2 190	JUN 29	8	AUG 28	35 000	JUN 29	182 000		851	---
1971	CCCCCCCCCCCC	MANUAL	3 470	JUN 16	6	AUG 28	72 800	JUL 04	746 000	3 480	2 170	60.8
1972	CCCCCCCCCCCC	MANUAL	4 450	JUN 18	6	DEC 16	70 000	JUN 18	400 000	1 870	2 070	37.1
1973	CCCCCCCCCCCC	MANUAL	3 370	MAY 21	8	SEP 23	41 900	MAY 21	344 000	1 810	1 850	28.3
1974	CCCCCCCCCCCC	MANUAL	5 080	JUL 13	10	SEP 27	103 000	JUL 13	518 000	2 420	2 050	21.6
1975	---CCCCCCC--	MANUAL	4 020	AUG 31	10	OCT 29	88 700	JUN 28	544 000	2 540	2 130	17.3
1976	---PPPP-PP--	MANUAL	1 240	JUL 03	32	OCT 05	---	---	---	---	---	---
1977	---PPPPPPP--	MANUAL	801	APR 25	8	OCT 27	---	---	---	---	---	---
1978	---P-PP-PP--	MANUAL	1 310	APR 27	15	OCT 25	---	---	---	---	---	---
1979	---CCCCCC---	MANUAL	5 010	JUN 14 *	14	AUG 27	140 000	JUN 14	884 000 *	---	---	---
1980	-P-CCCCCCC--	MANUAL	1 500	JUN 05	22	JUN 18	21 700	MAY 26	151 000		705	1 930	19.3
1981	---P-CCCCC--	MANUAL	2 180	JUL 23	5	AUG 26	18 500	JUL 23	58 200	---	---	---
1982	---PCCCCCC--	MANUAL	2 240	JUL 16	1	OCT 23 *	25 000	JUL 16	259 000	---	---	---
1983	---PCCCCCC--	MANUAL	4 590	JUN 20	7	JUN 04	197 000	JUN 26 *	863 000	---	---	---
1984	--PCCCCCCP--	MANUAL	3 850	JUN 8	14	AUG 2	72 400	JUN 08	248 000	---	---	---
1985	---PCCCCCC--	MANUAL	3 800	MAY 4	7	AUG 2	50 300	JUN 26	385 000	---	---	---
1986	---PCCCCCC--	MANUAL	2 550	JUL 15	10	SEP 9	95 400	JUL 15	532 000	---	---	---
1987	---PCCCCCC--	MANUAL	2 280	AUG 1	8	OCT 25	14 900	AUG 01	88 700	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

VERMILION RIVER AT VEGREVILLE - STATION NO. 05EE005

LOCATION: LAT 53 39 28 N LONG 112 02 18 W
DRAINAGE AREA: 1 590 km^2
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m^3/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAY 26	14:40	17.0	0.005	MID	DIP	14															

NOTE : SINGLE VERTICAL IS UNDETERMINED FOR 1987

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1987	----P-------	MANUAL	14	MAY 26 *	14	MAY 26 *	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

VERMILION RIVER NEAR MARWAYNE - STATION NO. 05EE007

LOCATION LAT 53 29 36 N LONG 110 23 51 W
DRAINAGE AREA 7 270 km²
TYPE OF FLOW NATURAL
TYPE OF GAUGE RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAY 28	08:45	17.0	1.03	MID	DIP	18	810														
JUN 24	10:05	14.5	0.148	MID	DIP	22															
JUL 30	09:50	24.0	0.035	MID	DIP	8	842														

NOTE : SINGLE VERTICAL IS UNDETERMINED FOR 1987

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1979	-------P----	MANUAL	0 AUG 21		0 AUG 21 *		---	---	---	---	---	---
1980	---PPPPP----	MANUAL	233 APR 18 *		11 JUN 24		---	---	---	---	---	---
1981	---PPP------	MANUAL	159 APR 04		5 MAY 20		---	---	---	---	---	---
1982	-------PPP-P-	MANUAL	77 NOV 03		33 AUG 11		---	---	---	---	---	---
1983	----PPPPPP--	MANUAL	106 JUL 30		14 JUN 08		---	---	---	---	---	---
1984	----PPPPPPP-	MANUAL	45 NOV 7		6 OCT 23		---	---	---	---	---	---
1985	---PPPPP----	MANUAL	127 APR 17		5 JUL 18		---	---	---	---	---	---
1986	---PPPPPPP--	MANUAL	100 APR 9		5 JUL 18		---	---	---	---	---	---
1987	----PPP------		22 JUN 24		9 JUL 30		---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

VERMILION RIVER NEAR VEGREVILLE - STATION NO. 05EE003

LOCATION: LAT 53 27 54 N LONG 112 03 52 W
DRAINAGE AREA: 1 580 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
APR 24	17:00		0.617	MID	X DH49	38	350														

NOTE : SINGLE VERTICAL IS UNDETERMINED FOR 1987

VERTICAL SYMBOL(S): X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

WASKATENAU CREEK NEAR WASKATENAU - STATION NO. 05EC002

LOCATION: LAT 54 07 23 N LONG 112 46 58 W
DRAINAGE AREA: 312 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
APR 14	10:00	4.0	2.44	7.0 K	DIP	12	275														
APR 30	10:00	12.0	0.630	1.3 K	DIP	8															

NOTE : SINGLE VERTICAL IS UNDETERMINED FOR 1987

VERTICAL SYMBOL(S): K - NOT AT REGULAR SINGLE SAMPLING VERTICAL,FROM LEFT BANK

ALBERTA

WASKATENAU CREEK NEAR WASKATENAU - STATION NO. 05EC002

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY MEAN LOAD (TONNES)	SUMMARY HISTORICAL MEAN LOAD (TONNES)	SUMMARY HISTORICAL STANDARD ERROR OF MEAN %
1974	.....PP...	MANUAL	7	AUG 14	5	SEP 19	---	---	---	---	---	---
1975	.....PPPP..	MANUAL	3	JUL 14	1	SEP 10	---	---	---	---	---	---
1976	...PPPP-P...	MANUAL	159	APR 04 *	6	MAY 20	---	---	---	---	---	---
1977	...PPPPPPP..	MANUAL	6	APR 18	1	AUG 08	---	---	---	---	---	---
1978	...PPPPPPP..	MANUAL	24	APR 13	3	JUL 27	---	---	---	---	---	---
1979	...PPPPPP...	MANUAL	79	APR 22	0	AUG 23 *	---	---	---	---	---	---
1980	...P-PPPP...	MANUAL	7	APR 23	5	JUL 14	---	---	---	---	---	---
1981	....P.....	MANUAL	12	MAY 27	12	MAY 27	---	---	---	---	---	---
1982	...P.....	MANUAL	9	APR 27	9	APR 27	---	---	---	---	---	---
1985	...PPP.....	MANUAL	11	MAY 22	8	APR 24	---	---	---	---	---	---
1986	...PP.....	MANUAL	6	APR 15	5	MAY 13	---	---	---	---	---	---
1987	...P.....	MANUAL	12	APR 14	8	APR 30	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH

* - EXTREME FOR PERIOD OF RECORD

WATERTON RIVER NEAR GLENWOOD - STATION NO 05AD026

LOCATION: LAT 49 28 35 N LONG 113 28 10 W
DRAINAGE AREA: 1 630 km²
TYPE OF FLOW: REGULATED SINCE 1966
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)		TYPE OF SAMPLER	INSTANT. CONCENT (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	PERCENT SILT	PERCENT CLAY
MAR 10	10:45	0.0	6.15	14.0	X	DH48	4	173														
MAR 24	10:20	1.0	8.52	13.0	X	DH48	3	191														
APR 08	11:50	8.0	25.7	20.0	X	DH59	135	180														
APR 28	13:25	14.0	33.7	24.0	X	DH59	4	183														
MAY 26	15:40	10.0	2.11	18.0	K	DH48	28	182														
JUN 23	15:10	17.0	1.67	18.0	K	DH48	1	180														
JUL 30	13:30	22.0	3.18	18.0	K	DIP	3	152														
AUG 26	13:25	14.0	3.48	18.0	K	DH48	8	145														
SEP 23	14:25	13.0	3.48	14.0	X	DH48	6	142														
SEP 28	14:25	13.0	3.48	14.0	X	DH48	6	155														
NOV 03	11:35	7.0	1.68	11.0	K	DIP	3	197														

NOTE : SINGLE VERTICAL IS UNDETERMINED FOR 1987

VERTICAL SYMBOL(S): K - NOT AT REGULAR SINGLE SAMPLING VERTICAL,FROM LEFT BANK
X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY MEAN LOAD (TONNES)	SUMMARY HISTORICAL MEAN LOAD (TONNES)	SUMMARY HISTORICAL STANDARD ERROR OF MEAN %
1974	.....P-PP..	MANUAL	6	JUL 24	1	OCT 08	---	---	---	---	---	---
1975	....PPP-PPP-	MANUAL	134	MAY 13	0	SEP 03 *	---	---	---	---	---	---
1976	...PPPPPPP..	MANUAL	43	APR 14	4	JUL 29	---	---	---	---	---	---
1977	...PPPPPPP..	MANUAL	39	OCT 18	3	APR 26	---	---	---	---	---	---
1978	...PPPPPP-P-	MANUAL	1 130	MAY 17 *	3	NOV 02	---	---	---	---	---	---
1979	...PPPPPPP..	MANUAL	113	MAY 30	0	JUL 25	---	---	---	---	---	---
1980	..PPPPP-PPP-	MANUAL	158	MAY 08	3	JUL 31	---	---	---	---	---	---
1981	..PPPPPPP-P-	MANUAL	233	MAY 27	3	AUG 24	---	---	---	---	---	---
1982	...PPPPPP---	MANUAL	43	JUN 23	1	AUG 25	---	---	---	---	---	---
1983	...PPPPPP-P-	MANUAL	181	MAY 30	4	JUL 26	---	---	---	---	---	---
1984	..PPPPP-----	MANUAL	36	JUN 26	3	MAY 1	---	---	---	---	---	---
1985	...PPPPPPP--	MANUAL	53	MAY 29	3	MAY 1	---	---	---	---	---	---
1986	..PPPPP--P-	MANUAL	148	JUN 2	1	JUN 25	---	---	---	---	---	---
1987	...PPPPPPP-P-	MANUAL	135	APR 8	1	JUN 23	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH

* - EXTREME FOR PERIOD OF RECORD

WEST PRAIRIE RIVER NEAR HIGH PRAIRIE - STATION NO. 07BF002

LOCATION: LAT 55 28 50 N LONG 116 29 30 W
DRAINAGE AREA: 1 160 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
APR 22	13:25	7.0	8.82	27.0 X	DH59	305	116	15	23	39	48	63	74	87	93	100			39	53	22
MAY 25	12:00	16.0	5.02	24.0 X	DH48	84	147														
JUN 22	13:15	19.0	1.08	1.2 X	DH48	13	215														
AUG 07	14:40	23.0	1.80	8.0 X	DH59	24	203														
AUG 25	08:45	12.0	5.62	20.0 X	DH48	116	146														
SEP 28	13:30	12.0	0.750	8.0 X	DH48	12	212														
OCT 26	12:20	3.0	0.488	7.5 X	DH48	12	280														

NOTE : SINGLE VERTICAL IS UNDETERMINED FOR 1987

VERTICAL SYMBOL(S): X - NOT AT REGULAR SINGLE SAMPLING VERTICAL,FROM LEFT BANK
X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1974	---PP--P-P--	MANUAL	3 280	APR 23	13	AUG 28	---	---	---	---	---	---
1975	---PPP-PP---	MANUAL	1 830	APR 28	22	SEP 28	---	---	---	---	---	---
1976	---PPPPPPP--	MANUAL	6 930	JUN 27	47	OCT 28	---	---	---	---	---	---
1977	---PPPPPPP--	MANUAL	2 430	APR 13	15	SEP 21	---	---	---	---	---	---
1978	-------PPP--	MANUAL	78	SEP 27	13	AUG 28	---	---	---	---	---	---
1979	---PPPPPP---	MANUAL	4 250	JUL 04	28	SEP 19	---	---	---	---	---	---
1980	----PPPPPP--	MANUAL	341	JUN 03	19	OCT 27	---	---	---	---	---	---
1981	----P-P------	MANUAL	253	MAY 27	10	JUL 07	---	---	---	---	---	---
1982	---PP-P-PP--	MANUAL	1 280	MAY 03	40	OCT 04	---	---	---	---	---	---
1983	---P-PPPPP--	MANUAL	6 800	JUL 28 *	33	OCT 24	---	---	---	---	---	---
1984	---PPPP-P---	MANUAL	5 730	JUN 8	7	SEP 4	---	---	---	---	---	---
1985	---PPPPPP---	MANUAL	2 140	MAY 8	9	JUL 25 *	---	---	---	---	---	---
1986	---PPPPPPP--	MANUAL	2 320	APR 22	6	AUG 25	---	---	---	---	---	---
1987	---PPP-PPP--	MANUAL	305	APR 22	12	SEP 28	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

WILLOW CREEK ABOVE CHAIN LAKES - STATION NO. 05AB028

LOCATION: LAT 50 11 47 N LONG 114 13 48 W
DRAINAGE AREA: 152 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
APR 29	11:00	10.0	1.11	4.0 X	DIP	7	187														
JUN 02	13:20	15.0	0.388	1.0 X	DIP	6	207														
JUL 08	12:45	17.0	0.143	1.0 X	DIP	6	199														
JUL 20	11:00	11.0	2.47	8.0 X	DH48	31	178														
AUG 05	12:50	15.0	0.483	1.0 X	DIP	9	189														
AUG 31	13:40	14.0	0.534	1.0 X	DIP	3	194														
SEP 28	14:00	10.0	0.284	3.0 X	DIP	6	207														
NOV 06	09:50	3.5	0.178	3.0 X	DIP	5															

NOTE : SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1987

VERTICAL SYMBOL(S): X - NOT AT REGULAR SINGLE SAMPLING VERTICAL,FROM LEFT BANK
X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

ALBERTA

WILLOW CREEK ABOVE CHAIN LAKES - STATION NO. 05AB028

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY - JAN-DEC MEAN LOAD (TONNES)	SUMMARY - JAN-DEC HISTORICAL MEAN LOAD (TONNES)	SUMMARY - JAN-DEC STANDARD ERROR OF MEAN %
1965	-----CCCCC--	MANUAL	1 890	JUN 17	1	AUG 15	2 230	JUN 18	5 410	---	---	---
1966	--CCCCCCCCCC	MANUAL	1 400	JUN 04	1	JUL 27	872	JUN 05	2 330	---	---	---
1967	CCCCCCCCCCC	MANUAL	1 350	MAY 31	2	AUG 01	7 180	MAY 31 *	30 800 *	84.8	84.8	---
1968	CCCCCCCCCCC	MANUAL	190	APR 01	1	JUL 17	84.4	JUN 07	888	1.80	43.1	96.3
1969	CCCCCCCCCCC	MANUAL	2 080	JUN 28 *	0	JUL 24 *	4 890	JUN 28	18 700	51.3	45.8	52.7
1970	CCCCCCCCCCC	MANUAL	1 780	MAY 05	0	SEP 17	801	MAY 05	3 300	9.04	36.6	52.9
1971	CCCCCCCCCCC	MANUAL	178	JUN 06	0	JUN 22	180	JUN 06	858	1.80	28.7	95.7
1972	CCCCCCCCCCC	MANUAL	91	MAY 15	0	JUN 21	88.5	MAY 14	1 130	3.09	25.2	56.4
1973	CCCCCCCCCCC	MANUAL	264	MAY 25	0	NOV 18	340	MAY 25	1 250	3.41	22.1	56.2
1974	CCCCCCCCCCC	MANUAL	255	APR 29	0	JAN 31	374	APR 27	1 710	4.67	18.9	55.1
1975	CCCCCCCCCCC	MANUAL	1 380	JUN 20	1	JAN 08	4 630	JUN 20	8 930	24.5	20.4	47.5
1976	CCCCCCCCCCC	MANUAL	880	AUG 06	0	SEP 20	1 180	AUG 06	2 880	8.13	19.2	45.6
1977	CCCCCCCCCCC	MANUAL	25	APR 06	1	JUN 12	2.31	APR 06	45.8	0.13	17.5	46.3
1978	PPPPPPPPPP--	MANUAL	40	MAR 17	0	JAN 03	---	---	---	---	---	---
1980	---PPPPPP-P-	MANUAL	29	MAY 28	4	AUG 28	---	---	---	---	---	---
1981	--P-PP-PPP--	MANUAL	413	MAY 22	4	SEP 02	---	---	---	---	---	---
1982	---PPPP-P---	MANUAL	44	JUN 07	1	SEP 14	---	---	---	---	---	---
1983	---PPPPP-P--	MANUAL	40	MAY 25	2	JUL 19	---	---	---	---	---	---
1984	---PPPP-----	MANUAL	28	APR 5	1	MAY 1	---	---	---	---	---	---
1985	----PPPPPP--	MANUAL	31	JUL 11	2	MAY 1	---	---	---	---	---	---
1986	---PPPPPP---	MANUAL	82	MAY 22	3	APR 1	---	---	---	---	---	---
1987	---P-PPPP-P-	MANUAL	31	JUL 20	3	AUG 31	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

WILLOW CREEK NEAR CLARESHOLM - STATION NO. 05AB021

LOCATION LAT 50 01 05 N LONG 113 42 50 W
DRAINAGE AREA 1 180 km²
TYPE OF FLOW REGULATED SINCE 1986
TYPE OF GAUGE MANUAL

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1987

DATE	TIME	WATER TEMP (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
APR 08	10 30	7.0	3.84	3.0	X DH48	43	200														
MAY 04	09 24	10.0	1.80	3.0	X DH48	10	282														
MAY 25	09 10	13.0	0.807	14.0	X DH48	8	224														
JUN 22	09 01	15.0	1.12	4.0	X DH48	5	184														
JUL 13	12 20	20.0	0.519	4.0	X DH48	9	183														
JUL 27	08 24	22.0	0.730	4.0	X DH48	5	215														
AUG 31	09 20	14.0	0.835	5.0	X DH48	8	205														
SEP 28	09 20	9.0	0.489	4.0	X DH48	7	231														
NOV 02	10 09	7.0	0.565	4.0	X DH48	9	259														

NOTE SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1987

VERTICAL SYMBOL(S) X - NOT AT REGULAR SINGLE SAMPLING VERTICAL, FROM LEFT BANK
X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

WILLOW CREEK NEAR CLARESHOLM - STATION NO. 05AB021

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)			SAMPLED CONCENTRATION MINIMUM (mg/L)			SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)			SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY JAN-DEC MEAN LOAD (TONNES)	SUMMARY JAN-DEC HISTORICAL MEAN LOAD (TONNES)	SUMMARY JAN-DEC STANDARD ERROR OF MEAN %
1964	---CCCCCCCCC	MANUAL	3 150	MAY 05		13	OCT 15		7 800	MAY 07		59 186	---	---	---
1965	CCCCCCCCCCCC	MANUAL	3 050	JUN 18		3	SEP 17		9 880	JUN 18		27 000	73.9	73.9	---
1966	CCCCCCCCCCCC	MANUAL	2 260	JUN 05		4	AUG 25		6 580	JUN 05		23 800	65.2	69.6	6.3
1967	CCCCCCCCCCCC	MANUAL	4 450	MAY 31		8	SEP 22		31 300	MAY 31		139 000	381	173	60.0
1968	CCCCCCCCCCCC	MANUAL	937	JUN 12		6	AUG 30		537	JUN 08		3 620	9.89	132	63.7
1969	CCCCCCCCCCCC	MANUAL	4 540	JUN 25		0	SEP 28	*	46 600	JUN 30	*	215 000	* 591	224	60.2
1970	CCCCCCCCCCCC	MANUAL	2 880	JUN 14		0	OCT 23		12 300	JUN 14		28 000	76.8	200	47.5
1971	CCCCCCCCCCCC	MANUAL	1 030	JUN 07		2	NOV 01		2 020	JUN 07		10 200	27.8	175	46.0
1972	CCCCCCCCCCCC	MANUAL	2 080	MAR 11		0	OCT 02		5 980	MAY 28		44 100	121	168	43.6
1973	CCCCCCCCCCCC	MANUAL	778	MAY 27		1	OCT 05		2 080	MAY 27		10 200	27.6	153	43.3
1974	CCCCCCCCCCCC	MANUAL	2 410	MAY 01		1	OCT 18		5 640	MAY 01		38 700	106	148	40.2
1975	PPPPPPPPPPPP	MANUAL	5 210	JUN 30	*	8	JAN 06		---	---		---	---	---	---
1976	--PPPPPPP-P-	MANUAL	288	AUG 12		4	NOV 03		---	---		---	---	---	---
1977	---PPPPPPP--	MANUAL	19	APR 13		1	OCT 31		---	---		---	---	---	---
1978	--PPPPPPPP--	MANUAL	784	MAR 28		2	OCT 30		---	---		---	---	---	---
1979	---PPPPPPP--	MANUAL	121	MAY 28		0	AUG 30		---	---		---	---	---	---
1980	--PPPPP-P-P-	MANUAL	187	APR 14		6	JUL 28		---	---		---	---	---	---
1981	--PPPPPPPP--	MANUAL	1 870	MAY 23		5	OCT 26		---	---		---	---	---	---
1982	---PPPPPP---	MANUAL	130	APR 23		6	SEP 27		---	---		---	---	---	---
1983	----PP-PPP--	MANUAL	28	JUN 24		4	OCT 31		---	---		---	---	---	---
1984	--PP-PP-----	MANUAL	9	JUL 30		3	JUN 25		---	---		---	---	---	---
1985	----P-PPP-P-	MANUAL	12	MAY 31		3	NOV 1		---	---		---	---	---	---
1986	---PPPPPP-P-	MANUAL	185	MAY 1		3	SEP 9		---	---		---	---	---	---
1987	---PPPPPP-P-	MANUAL	43	APR 8		9	JUN 22		---	---		---	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

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